University of Alberta

Abuse and Disability in Childhood

by

Wade Randall

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of
the requirements for the degree of Doctor of Philosophy
in Special Education

Department of Educational Psychology

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DEDICATION

This work is dedicated to the memory of my friend and cousin Colin James Fiset who, at a young age, realized the importance of family and friends and inspires us to evaluate our own priorities. You are greatly missed.

ABSTRACT

Data from both Canada and the U.S. estimate that at least 110 out of every 1000 children are victims of abusive violence each year (Statistics Canada, 1995; Wolfner & Gelles, 1993). However, some children appear to experience greater risk than others. Gender differences are apparent for some categories of abuse, and children with disabilities are more likely to be abused than children without disabilities (Ammerman & Baladerian, 1993). To investigate this relationship three studies were conducted. The first study uses a nationally representative sample of abused children from the U.S., and will be the first study of this magnitude to examine the gender-disability relationship across three age groups of children with and without disabilities. This study found that gender differences do indeed exist between children with and without disabilities. In addition, it was found that the age of the victim represents a differential risk factor for children with and without disabilities. For example, among elementary age children with disabilities, boys made up 53% of the sexually abused children compared to 21% of the boys without disabilities ($p <$ .001). The second study examines how the gender, disability status, and age of victims influence risk factors in among Canadian child sexual abuse victims in a treatment sample. This study found results similar to those described above suggesting that generalizations across samples maybe appropriate. The final study addresses the issue of whether the presence of a disability has a differential risk effect on children of different races, as suggested by Crosse, Kaye and Ratnofsky (1993). To evaluate this, a reanalyzes of their data is conducted. While Crosse, Kaye and Ratnofsky excluded maltreated infants from their analysis doing so eliminated the largest age group of abused children. Our results suggest that Crosse, Kaye, and Ratnofsky's conclusion that African-American children with disabilities are maltreated less often than their White peers with disabilities may be a product of their inclusion criteria. Research and clinical implications of the results described above are discussed.

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Chapter I
Introduction

The tragedy of child maltreatment is a familiar part of social existence. Although the sanctity of childhood should be guaranteed, it does not exist for many children. For these children, the innocence of childhood often disappears in an abrupt and cruel manner.

Child abuse has become recognised as one of the greatest health concerns and safety risks for children (Krents, Schulman, & Brenner, 1987). Data from both Canada and the U.S. estimate that as many as 110 out of every 1000 children are victims of abusive violence each year (Statistics Canada, 1995; Wolfner & Gelles, 1993). In fact, for children under the age of four, childhood deaths as a result of maltreatment outnumber deaths caused by choking on food, falls, suffocation, drowning, house fires, and car accidents (US Advisory Board on Child Abuse and Neglect, 1995). However, some children appear to experience greater risk than other children.

Gender differences are apparent for some categories of abuse, and children with disabilities are more likely to be abused than children without disabilities (Ammerman & Baladerian, 1993; Sobsey, Randall, & Parilla, 1997). While research in this area is limited, early results have suggested that gender and disability status may interact, resulting in a higher proportion of boys among abuse victims with disabilities than the proportion of boys found among abused children without disabilities (Sobsey, 1994; Sullivan, Brookhouser, Scanlan, Knutson, & Schulte, 1991). In addition, there is speculation that this interaction may become even more pronounced as children get older.

Racial and ethnic differences have also been identified as contributing to differences in reported cases of child maltreatment by some researchers. While this area is somewhat controversial, it is important to attempt to explore potential relationships. In particular, African-American children are consistently overrepresented among children reported for child maltreatment than would be expected given their relative percentage in the general population (e.g., Lindholm & Willey, 1986; U. S. Advisory Board on Child Abuse and Neglect, 1995). While few studies have evaluated the interaction between race, disability, and abuse, it is clear that an increased understanding is an essential component in the development and delivery of programs aimed at reducing child maltreatment.

While definitions of child abuse vary and seem to be becoming broader, abuse can be defined as an act or omission in one or more areas that threatens the health or welfare of

a child. These areas include mental and emotional trauma and physical trauma that results in bruises, bleeding, subdural hematoma, soft-tissue swelling, fractures, burns, or death that is not the result of an accidental occurrence. In addition, any case in which a child is subjected to sexual assault, molestation, or exploitation is considered abusive. Finally, any case where the child's parent, legal guardian, or custodian fails to take actions necessary to provide food, clothing, shelter, supervision, education or protection is considered abuse through neglect (Crosse, Kaye, & Ratnofsky, 1993; Sobsey, 1994). While this definition is well accepted, it is by no means standard, and differences in definitions affect estimates of the incidence and prevalence of child abuse.

Child abuse is known to affect a significant number of children in Canada. However, accurate estimates of the incidence are very difficult to establish because of the problems in the establishment of representative samples of children, a reluctance to disclose abuse by the victims, inconsistent and low reporting rates to child protection agencies, and definitional differences on what types of abuse to include. While these limitations exist, estimations are relatively consistent. For example, a representative sample survey of investigations conducted by Children's Aid Societies in Ontario estimates the incidence of child maltreatment to be 112 children out of every 1000 children in Ontario in 1993 (Statistics Canada, 1995). These survey results include information from all types of maltreatment, including physical and sexual abuse as well as various forms of neglect. These survey findings are consistent with other results (e.g., Robertson, 1988). These rates are also consistent with those from the United States and other countries, suggesting generalizability across borders may be appropriate (e.g., Cohen & Warren, 1990; Crosse et al., 1993; Krents, Schulman, & Brenner, 1987; Verdugo, Bermejo, & Fuertes, 1995).

The need to focus on the prevention of child maltreatment is becoming more apparent as people recognize the scope of the problem. A necessary and logical first step in the development of prevention efforts is to discover and attempt to understand the factors associated with the increased risk for maltreatment.

Several studies suggest that the gender proportions among abused children with and without disabilities could differ significantly (Sullivan and Knutson, 1997). However, more information is required first to establish differences that are based on gender and on disability status, and then it is necessary to understand how these factors interact and contribute to any differences. Chapter II addresses these issues by evaluating data from an existing nationally representative sample of U.S. child maltreatment cases substantiated by Child Protection Service (CPS) agencies. Based on the same sample, Crosse et al. (1993) already established that disabled children are 1.7 times more likely to be abused than nondisabled children.

Thoughout the chapters the term "interaction" is used to describe the way in which variables interrelate and contribute to changes in the the risk factor for maltreatment. It is not intended to refer to a statistical significance interaction effect.

The purpose of the study outlined in Chapter II was to compare abused children with and without disabilities on age and gender, and is the first study of this magnitude to examine this relationship. Two specific questions are asked: (1) Is the gender distribution in the nondisabled group the same across different categories of abuse and within each of three age groups of children? (2) Is the gender distribution in the disabled group the same as that of the nondisabled group across different categories of abuse for all ages of children and within three age groups of children?

Several studies indicate that children with disabilities are at a higher risk for sexual abuse than children without disabilities and that disability status increases the risk of being sexually abused, particularly for boys (e.g., Sobsey, et al., 1997). The study described in Chapter III utilized a Canadian sample of child sexual abuse victims to help determine whether results from a U.S. sample will generalize to Canada. Furthermore, it tested the generalization of findings from a child protection service sample to a child abuse treatment sample. The specific questions asked are: (1) Is the effect of gender on the risk for being sexually abused the same for children with and without disabilities? and (2) If a gender and disability status interaction is found, is this interaction the same across different age groups?

Chapter IV describes a study that examined the race and disability interaction from the data described in Chapter II. Crosse et al. (1993) have already established that children with disabilities and African-American children are overrepresented among abused children. The interaction between disability and race, however, is less clear. The purpose of this study was to determine whether children reported for maltreatment are abused according to their race and disability status. In order to accomplish this, two specific questions were asked: (1) Do the proportions of African-Americans, White, and other ethnic groups identified as maltreated in the sample used by Crosse et al. differ from their respective proportions in the general population? (2) Do the ethnic group proportions found for the sample of children with disabilities differ from those found for the group of children without disabilities? Finally, (3) Do any possible differences in ethnic proportions between groups remain stable across various age groups?

As described above there are two separate data sets used for the three studies. The dataset used in chapters II and IV was generated from a nationally representative sample of Child Protection Service (CPS) agencies in the United States. During the 4 to 6 weeks of data collection, all cases of child or infant maltreatment that were substantiated by CPS

workers became part of the data. There are three primary limitations that may affect the generalizability of any results generated by analysis of the data. First, many cases of extrafamilial abuse are reported to the police and not forwarded to CPS agencies, as suggested by Sullivan and Knutson (1997). Thus, results likely underrepresent patterns of maltreatment by strangers and other nonfamily offenders. Including police records may be one way to overcome this limitation. Another might be through a retrospective study based on self-reports. Each of these approaches has its own limitations. For example, although the addition of police records adds many cases of extrafamilial abuse, most child abuse remains unreported to either police or child protection authorities (Sobsey, 1994). Since the percentages of cases reported and unreported to police and child protection agencies may differ, and the standards for confirming cases may differ between police and child protection agencies, combining data from can not be expected to produce a precise result of the full spectrum of cases. In addition, it is difficult to obtain a nationally representative sample that combines both police and child protection records. In some cases, the boundaries of law enforcement agencies may differ from those of child protection service districts. As a result, the populations sampled may not be the same. Retrospective surveys of adults abused as children rarely achieve high return rates and may be particularly difficult to apply to individuals whose disabilities may affect their ability to respond and subsequent inclusion in samples. Since all of these sampling procedures have limitations, the most useful understanding of abuse of children with disabilities will probably come from integrating the findings from all three kinds of studies and considering the limitations of each.

A study using a cohort population sample combining police and child protection records (along with school records) has been conducted using children in the Omaha Public School System, by Sullivan and Knutson (1997). As might be expected from the previous discussion, this study included more extrafamilial abuse and found extrafamilial abuse to be elevated more than intrafamilal abuse.

Second, there may be seasonal variation in child maltreatment patterns that 6 weeks of data collection would miss. This may affect generalizations of results. The sample used in Chapter III, however, consists of two years of consecutive admissions to a treatment program and should not be subject to the limitation of seasonal variation. The consistency of findings between Chapter II and Chapter III based on these very different sampling methods suggests that the limitation of seasonal variation was not critical to the results.

Third, CPS caseworkers were faced with the task of identifying children with disabilities among the maltreated children. Although caseworkers are not qualified to diagnose disabilities, they had the most complete information on each of the children.

Other researchers (e.g. Sullivan and Knutson, 1997) have used school records to identify disabilities among children reported for maltreatment. The use of school records is likely to be more reliable than social workers' appraisals. School records, however, may overrepresent the number of children with some types of disabilities as school systems receive extra funding for students with disabilities and may have a financial incentive to diagnose disabilities. In addition several studies have suggested that gender and possibly other factors bias school classifications of children's disabilities (e.g., Artiles & Trent, 1994).

The data collection effort used in the research described in chapters II and IV, while subject to limitations, represents contemporary methodology well accepted in the literature. Furthermore, it is thought that many of the effects of the limitations mentioned above would be random across disability status. Further research, however, is necessary to conclude this with confidence. Chapter III is based on a treatment cohort and includes both intrafamilial (42.1) and extrafamilial (57.8%) abuse. The similarity of findings between Chapter II and Chapter III suggests that the findings of these two chapters generalize across sampling methods. Additional research will be required to determine the generalizability of Chapter IV findings. In addition, the use of a treatment sample obviously provides the best model for consideration in planning and implementing treatment services.

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RUNNING HEAD: Gender, Disability, and Abuse

Chapter II

GENDER DIFFERENCES IN ABUSED CHILDREN WITH AND WITHOUT DISABILITIES

A version of this chapter has been published. [Sobsey, D., Randall, W. & Parrila, R. K., (1997). Gender differences in abused children with and without disabilities. *Child Abuse & Neglect, 21*(8), 707-720.]

An estimated 33 out of every 1000 American children are reported to be abused each year (Ards & Harrell, 1993). However, some children appear to experience a greater risk for abuse than others. Gender differences are apparent for some categories of abuse, and children with disabilities appear to be more likely to be abused than children without disabilities. Researchers have also suggested that gender and disability status may interact, resulting in a higher proportion of boys among abuse victims with disabilities than might be expected from the proportion than might be expected for boys among abused children without disabilities (Sobsey, 1994; Sullivan, Brookhouser, Scanlan, Knutson, & Schulte, 1991). The present study was undertaken to help clarify the relationship between gender and disability among abused children.

Gender and Abuse

Gender is an important factor in child sexual abuse. Peters, Wyatt, and Finklehor (1986) reviewed 8 random community samples and concluded that girls were sexually abused 2.5 times more often than boys. In an updated analysis, Finklehor (1994) reviewed a number of studies of child sexual abuse from 19 countries and concluded that (a) sexual abuse occurs globally and (b) girls are sexually abused 1.5 to 3 times more often than boys. Dobash, Carnie, and Waterhouse (1993) found similar results in their investigation of sexual abuse cases in the UK, where 74% of reported cases involved girls. Consistent results have also been reported by Levine-Powers, Jakitsch, and Eckenrode (1989), who found that sexual abuse was significantly more likely to involve girls.

Data from the American Association for Protecting Children (1986) indicate that girls were abused slightly more often than boys (Straus, Gelles, & Steinmetz, 1988). In contrast, Wolfner and Gelles (1993) found that boys were victims of physical violence almost 35% more frequently than girls. Baldwin and Oliver (1975) reached a similar conclusion: the ratio of boys to girls for severe forms of all abuse types was 1.4:1 in their study. The First National Family Violence Survey produced results similar to Wolfner and Gelles, concluding that households with male children had the highest risk of severe physical violence (Gelles, 1980). The differences in results among these studies can be at least partially attributed to differences in the categories of abuse studied. The first study looked at all types of abuse cases, but the other two studies were interested in violent physical abuse. In addition, the first study included only official report data, while the other two studies used self-report data. Differences in definitions, differences in data collection methods, and as suggested by Verdugo, Bermejo, & Fuertes, (1995) the relative scarcity of research in this area also contribte to differences in estimates.

In summary, existing research suggests that boys are more likely to experience more severe forms of physical abuse while girls are more likely to be sexually abused. This pattern generally results in roughly the same total number of girls and boys as victims of abuse.

Disability and Abuse

Researchers generally agree that children with any of a wide variety of disabilities are more likely to be abused than children without disabilities (e.g., Crosse, Kaye, & Ratnofsky, 1993). Impaired communication and decreased self-defense abilities, compounded by a variety of other environmental and cultural factors, have been cited as probable reasons for increased risk (Sobsey, 1994). Although the presence of disabilities has been shown to increase vulnerability to abuse, maltreatment of persons with disabilities has received limited attention in the literature.

Sobsey and Varnhagen (1988) reviewed the literature on the sexual abuse, assault and exploitation of people with disabilities. Their conclusion was that people with disabilities are at least one and a half times as likely to be sexually abused than nondisabled people. This is fairly consistent with Doucette (1986), who found that women with disabilities were 1.3 times as likely to have been sexually abused as children as nondisabled women. Ammerman and Baladerian (1993) conclude that children with disabilities are maltreated at a rate that is 4 to 10 times that of children without disabilities. A study by Verdugo et al. (1995) indicates that the prevalence of maltreatment was 11.5% for children and adolescents with disabilities attending different institutions compared to 1.5% for a control group of nonhandicapped children. A large-scale and well-controlled study by Crosse et al. (1993) produced similar findings, reporting that children with disabilities were 1.7 times as likely as other children to experience some form of maltreatment. Although this study has limitations associated with a short data collection period and using reports from Child Protection Service agencies, thereby eliminating most cases of extrafamilial abuse, it remains one of the best data collection efforts to date for examining abuse reported to Child Protection Agencies. Since this reported abuse is mostly limited to intrafamilial abuse, it cannot be generalized to extrafamilial abuse or to the entire spectrum of abuse. Since extrafamilail abuse appears to be a particular concern for children with disabilities, samples based on child protection agencies are likely to produce lower estimates of increased risk than samples that include more extrafamilial abuse (Sobsey & Doe, 1991).

Although Crosse et al. (1993) only briefly reported on gender, there appeared to be a strong interaction between disability and gender in their nationally representative sample of abused U.S. children. Children with disabilities made up 21% of maltreated boys whose

abuse was substantiated but only 7.7% of girls whose abuse was substantiated. Previous studies have also suggested that gender distribution among abused children with disabilities might differ from the gender distribution in other populations. For example, Sullivan, Vernon, and Scanlan (1987) evaluated data from four studies on the abuse of deaf children in residential settings. They reported trends that included not only higher incidences of sexual abuse of deaf children but also that the ratio of abused boys and girls was the opposite of what is reported in the hearing population. Specifically, they found that 54% of deaf boys and 50% of deaf girls were sexually abused as children. Although this study did not include a control group, the male majority contrasts strongly with the cited studies of children without disabilities. Sobsey (1994) reviewed a number of studies of sexual abuse of children and adults with disabilities and concludes that "boys with disabilities constitute a larger percentage of victims of sexual abuse than might be expected from studies of populations without disabilities" (p. 81). Sobsey goes on to offer a number of hypotheses for this difference and concludes that there is insufficient information to determine the reason for the atypical gender distribution among abused children with disabilities.

Taken together, the above studies suggest that the gender proportions for abused children with and without disabilities could differ significantly. More information, however, is required first to establish the differences based both on gender and on disability status, and then to attempt to understand some of the factors involved in contributing to these differences. The present study attempts to answer the first question by evaluating data from a nationally representative U.S. sample of children. Based on the same sample, Crosse et al. (1993) already established that disabled children were 1.7 times more likely to be abused than nondisabled children.

The purpose of this study is to compare whether children are abused according to their gender and disability status. Two specific questions were asked: (1) Is the gender distribution in the nondisabled group the same across different categories of abuse? and (2) Is the gender distribution in the disabled group the same as that of the nondisabled group across different categories of abuse?

Method

Data Collection

The data used in this study were originally collected by the National Center on Child Abuse and Neglect as mandated by Section 102(a) of PL 100-294, the Child Abuse Prevention, Adoption, and Family Services act of 1988. The purpose of that research was to study and report on the incidence of child abuse among children with disabilities, on the relationship between child abuse and children's disabilities, and on the incidence of

children who have developed disabilities as a result of child abuse or neglect. This information is available in *A Report on the Maltreatment of Children with Disabilities* (Crosse et al., 1993). The present study analyzed partly the same data, which was provided by the National Data Archive on Child Abuse and Neglect, Cornell University, Ithaca, New York.

The initial large-scale study involved two rounds of data collection after the recruitment of a nationally representative sample of 35 Child Protection Services (CPS) agencies in the United States. During the first round, which involved 4 to 6 weeks of data collection, all cases of child or infant maltreatment that were substantiated by CPS workers became part of the data. This round of data collection resulted in 1249 substantiated cases of child and infant maltreatment involving 1834 children. The second round of data collection consisted of telephone interviews with the current or last caseworker of the substantiated cases identified in the first round. Additional information about the child, their disabilities, services received, and case status was gathered at this time.

Participants

In the initial data collection, children were considered to have a disability if they met the criteria set out by the Americans with Disabilities Act (PL 101-336). This act states that a person is considered disabled if they meet two criteria: First, they must be suspected of being mentally retarded, hard of hearing, deaf, speech impaired, visually impaired, blind, seriously emotionally disturbed, orthopedically impaired, other health impaired, deaf-blind, or specific learning disabled; and second, those impairments must limit their functioning in one or more life activities including, mobility, self-care, receptive or expressive language, learning, self-direction, capacity for independent living, and economic self-sufficiency.

The primary criterion for inclusion in this study was that children over the age of 1 had maltreatment that was substantiated by CPS caseworkers, and specific information about the type of maltreatment had to be available. This was necessary for a more precise estimation of the types of abuse that the participants were at risk for and experienced. Other information, such as gender and age of the child, also had to be available in order to be included in the sample. After these criteria were applied, the total sample included 803 boys and 801 girls. Seventeen percent of the boys (n = 140) and ten percent of the girls (n = 76) were identified as having a disability. The mean age for both the disabled and nondisabled sample was 7.96 years, with standard deviations of 4.69 and 4.54, respectively.

Age Groups. To increase the specificity of the analyses, the total sample was divided into three separate age groups, representing natural divisions in children's lives. These age groups were preschoolers (ages 1–5), elementary school age (ages 6–11), and

adolescents (ages 12–17). The preschool sample included 28 girls with disabilities, 223 girls without disabilities, 47 boys with disabilities, and 240 boys without disabilities, for a total sample size of 538. The mean ages for nondisabled and disabled groups were 2.96 (SD = 1.42) and 2.84 (SD = 1.51), respectively.

The elementary school sample included 17 girls with disabilities, 268 girls without disabilities, 65 boys with disabilities, and 305 boys without disabilities, for a total sample size of 655. The mean ages for nondisabled and disabled children were 8.35 (SD = 1.70) and 8.24 (SD = 1.82), respectively.

The adolescent sample consisted of 411 children: 31 girls with disabilities, 234 girls without disabilities, 28 boys with disabilities, and 118 boys without disabilities. The mean age was 13.91 (SD = 1.51) for the nondisabled children and 14.08 (SD = 1.41) for the disabled children.

Infants under the age of 1 year were excluded from the present analyses because the categories of abuse differed considerably from those reported for older children and in some cases presented particular links between abuse and disability and possible links to gender. For example, 43% of the cases reported among infants involved positive drug or alcohol toxicology, often a result of prenatal exposure. This condition is listed both as a type of disability and as a form of abuse in the original report (Crosse et al., 1993), confounding the relationship between abuse and disability. In addition, the prenatal survival rate for infants exposed to alcohol and other toxic drugs may differ between boys and girls. Nevertheless, it should be pointed out that among disabled infants who experienced substantiated abuse under age one, 60.5% (n = 46) were girls and 39.5% (n = 30) were boys. By comparison, 50.3% (n = 77) of nondisabled infants who experienced substantiated abuse during the same period were girls, suggesting possible gender differences among maltreated infants.

Maltreatment Categorization

The initial data collection produced 15 different categories for maltreatment. Most of the categories, however, involved too few cases for meaningful statistical analyses. For this reason, the original 15 categories were assigned to four new categories (original categories in parentheses): (1) physical abuse (physical abuse); (2) sexual abuse (sexual abuse); (3) neglect (physical neglect, medical neglect, abandonment, expulsion, inadequate supervision, inattention to special education needs, other educational neglect, inadequate nurturance/affection, refusal or delay of psychological care), and (4) emotional abuse (emotional abuse, other maltreatment, drug/alcohol toxicology/addiction/abuse). A more detailed description of the original categories is provided in Crosse et al. (1993).

Results

In order to test whether the gender distribution in the nondisabled group was the same across different categories of abuse, we assumed that nondisabled boys and girls would be equally represented in different categories of abused children and then tested the observed distribution against this hypothesized equal distribution. In order to test whether the gender distribution in the group of children with disabilities was the same as that of the nondisabled group across different categories of abuse, the observed gender distribution of the nondisabled from our sample was used as a criterion against which the gender distribution of that group was compared. Thus, the first three columns in Tables 2-1 to 2-5 report first the observed frequencies (percentages in parentheses) of the maltreated boys and girls without disabilities, then the expected frequencies for the nondisabled groups based on the assumption of equal distribution, and finally the results from a One-Sample chi-square test comparing the observed frequencies to the expected frequencies. This is followed by the observed frequencies (percentages in parentheses) of the maltreated boys and girls with disabilities, the expected frequencies for children with disabilities based on the observed frequencies of nondisabled boys and girls, and, in the last column, the results from a One-Sample chi-square test comparing the actual and the expected frequencies for the disabled children.

Tables 2-2 to 2-5 each contain Chi-square analyses for four specific categories of abuse within each specific age grouping (not counting the Chi-square analysis for all types, which is a compilation of the other four specific analyses). Since these multiple comparisons increase the random probability of a significant result in at least one of the comparisons, results of tests of significance at the $p < .05$ level should be viewed with extreme caution. Thus, a more conservative approach would require that $p < .0125$ (0.05 divided by four) be used as a minimum criterion for significance before firm conclusions are drawn. Readers should keep this in mind when interpreting the results.

First, we present the results for all age groups combined. This is followed by separate analyses for the three age groups as outlined above. Each section starts by examining the gender distributions across all types of abuse, followed by separate analyses for each of the four abuse types–physical abuse, sexual abuse, neglect, and emotional abuse.

Children of All Ages

Table 2-1 reports the observed and expected frequencies for boys and girls with and without disabilities for all abuse categories and age groups combined. The results from

One-Sample chi-square tests comparing the observed and expected distributions are also shown in Table 2-1.

Table 2-1. Gender distribution of children with and without disabilities across all abuse categories (chi-square shows the difference between n observed and n expected)

	Children without Disabilities			Children with Disabilities		
	n observed	*n* expected	chi-square ($df = 1$)	*n* observed	*n* expected	chi-square ($df = 1$)
Boys	663 (48%)	694	2.77	140 (65%)	103.25	25.06*
Girls	725 (52%)	694		76 (35%)	112.75	

Note: *$p < .001$

Table 2-1 shows that when all categories of abuse were included, nondisabled boys and girls were about equally often victims of substantiated abuse. The same, however, was not true for children with disabilities. Instead, the sample of children with disabilities had almost twice as many boys than girls in it. Moreover, the number of abused boys with disabilities was higher (140 vs. 103.25) and the number of abused girls with disabilities was lower (76 vs. 112.75) than the number expected on the basis of the observed gender distribution of children without disabilities.

Table 2-2 displays the results of similar comparisons calculated separately for each of the four abuse categories. Table 2-2 indicates that nondisabled girls were significantly more often reported victims of sexual abuse (82% vs. 18%) and emotional abuse (59% vs. 41%) than were nondisabled boys. The opposite was true for neglect. Although slightly more boys than girls without disabilities were among victims of physical abuse, the observed gender distribution was not significantly different from assumed equal distribution.

Table 2-2 shows further that the gender distribution for children with disabilities was significantly different from that of the nondisabled group in all maltreatment categories, except the emotional abuse category for which the chi-square value approached significance ($p = .082$). The observed values for boys with disabilities exceeded the expected values for every category of abuse. The differences were particularly large in the sexual abuse category: Twice as many boys with disabilities were victims of sexual abuse than expected on the basis of the nondisabled sample. Nevertheless, even among children with disabilities, girls were more frequent victims of substantiated sexual abuse, whereas all other categories had more boys than girls as victims. Therefore, female gender is clearly associated with increased risk for sexual abuse while disability status seems to interact with gender and is associated with increased risk for all types of abuse for boys with disabilities.

Table 2-2. Gender distribution of children with and without disabilities in the four abuse categories (chi-square shows the difference between n observed and n expected)

	Children without Disabilities			Children with Disabilities		
	n observed	*n* expected	chi-square (*df* = 1)	*n* observed	*n* expected	chi-square (*df* = 1)
Physical Abuse						
Boys	245 (53%)	229	2.24	53 (71%)	40.12	8.88**
Girls	213 (47%)	229		22 (29%)	34.88	
Sexual Abuse						
Boys	39 (18%)	109	89.91***	14 (38%)	6.62	10.01**
Girls	179 (82%)	109		23 (62%)	30.38	
Neglect						
Boys	328 (56%)	294	7.86**	64 (71%)	50.22	8.55**
Girls	260 (44%)	294		26 (29%)	39.78	
Emotional Abuse						
Boys	51 (41%)	62	3.90*	9 (64%)	5.79	3.03
Girls	73 (59%)	62		5 (36%)	8.21	

Note: $*p < 05$; $**p < .01$; $***p < .001$

Preschool-Age Children

Table 2-3 shows the observed and expected gender distributions of abused children between the ages of 1 to 5. The distribution of nondisabled boys and girls was again roughly equal across all the categories of abuse (51.8% vs. 48.2%). Moreover, the most frequent type of abuse was neglect, and no significant gender differences were observed for that category. Nondisabled preschool-age victims of physical abuse, however, were more likely to be boys, whereas the victims of sexual abuse were more likely to be girls. Both of these differences were significant.

The gender distribution for the abused preschool-age children with disabilities was demonstrated to be different from that of other abused children: a higher percentage of abused preschool-age children with disabilities were boys (62.7%) —but the difference only approached significance ($p = .06$). The only significant difference between the two distributions was in the neglect category, in which the disabled boys were overrepresented. The reported percentages in Table 2-3 suggest more differences between the disabled and nondisabled groups, but the limited sample size of children with disabilities may be too small for conclusive evidence.

Table 2-3. Gender distribution of children ages 1-5 with and without disabilities in the four abuse categories (chi-square shows the difference between n observed and n expected)

	Children without Disabilities			Children with Disabilities		
	n observed	*n* expected	chi-square (*df* = 1)	*n* observed	*n* expected	chi-square (*df* = 1)
Physical Abuse						
Boys	67 (64%)	52	8.65**	9 (56%)	10.30	0.46
Girls	37 (36%)	52		7 (44%)	5.70	
Sexual Abuse						
Boys	15 (30%)	25	8.00**	3 (43%)	2.10	0.55
Girls	35 (70%)	25		4 (57%)	4.90	
Neglect						
Boys	143 (52%)	138	0.36	31 (71%)	22.79	6.13*
Girls	133 (48%)	138		13 (29%)	21.21	
Emotional Abuse						
Boys	15 (46%)	16.5	0.24	4 (50%)	3.60	0.08
Girls	18 (54%)	16.5		4 (50%)	4.40	
Abuse All Types						
Boys	240 (52%)	231.5	0.624	47 (63%)	39.00	3.419
Girls	223 (48%)	231.5		28 (37%)	36.00	

Note: *$p < .05$; **$p < .01$

While boys without disabilities were more often victims of physical abuse and girls without disabilities were more often victims of sexual abuse, the disability-gender interactions were generally not significant for preschool-age children. This may have been partly due to the small expected cell frequencies in many categories, which resulted in weak statistical tests.

Elementary School-Age Children

Table 2-4 reports the observed and expected frequencies for elementary school-age children (6-11 years of age).

In this age group, the gender distribution of nondisabled children was roughly equal across the abuse categories (53% boys and 47% girls). Clear differences were evident, however, in three of the four categories: nondisabled elementary school age victims of physical abuse and neglect were more likely to be boys, whereas nondisabled

victims of sexual abuse and, to a lesser extent, of emotional abuse were more likely to be girls.

Table 2-4. Gender distribution of children ages 6-11 with and without disabilities in the four abuse categories (chi-square shows the difference between n observed and n expected)

	Children without Disabilities			Children with Disabilities		
	n observed	*n* expected	chi-square ($df = 1$)	*n* observed	*n* expected	chi-square ($df = 1$)
Physical Abuse						
Boys	127 (62%)	102.5	11.71*	32 (94%)	21.08	14.89**
Girls	78 (38%)	102.5		2 (6%)	12.92	
Sexual Abuse						
Boys	18 (21%)	43	29.07**	8 (53%)	3.13	9.55*
Girls	68 (79%)	43		7 (47%)	11.86	
Neglect						
Boys	140 (60%)	116.5	9.48*	21 (72%)	17.43	1.83
Girls	93 (40%)	116.5		8 (28%)	11.57	
Emotional Abuse						
Boys	20 (41%)	24.5	1.65	4 (100%)	N/A	N/A
Girls	29 (59%)	24.5		0 (0%)	N/A	N/A
Abuse All Types						
Boys	305 (53%)	286.5	2.389	65 (79%)	43.50	22.72**
Girls	268 (47%)	286.5		17 (21%)	38.50	

Note: $*p < 01$; $**p < .001$

The gender distribution of the disabled sample was significantly different ($p <$ .001) from that of the nondisabled sample; again, boys with disabilities (79%) were significantly overrepresented among the abused elementary school-age children. Table 4 shows that a significantly larger number of boys with disabilities were abused physically and sexually than expected on the basis of the nondisabled sample. Eight out of 15 children with disabilities who were victims of sexual abuse were boys, as were 32 out of 34 victims of physical abuse. It is also worth noting that all four children in the emotional abuse category were male, as were 21 of the 29 victims of neglect.

To summarize, almost four-fifths of the abused elementary school-age children with disabilities were boys. Physical abuse showed the strongest gender differences for children

with disabilities, whereas sexual abuse showed the largest effect of gender for the nondisabled sample. Emotional and sexual abuse categories also showed higher proportions of boys with disabilities, but the small number of cases in these categories requires cautious interpretation.

Adolescents

Table 2-5 displays data for adolescents aged 12 to 17. As shown in Table 2-5, adolescent girls made up the majority of children both with and without disabilities who were reported to be abused between the ages of 12 to 17. In the nondisabled sample, 66% of the adolescent victims were girls. Nondisabled adolescent girls were significantly more often victims of both physical and sexual abuse than were adolescent boys. The physical abuse category for adolascent girls shows a particularly clear difference compared to the younger groups.

Table 2-5. Gender distribution of children ages 12-17 with and without disabilities in the four abuse categories (chi-square shows the difference between n observed and n expected)

	Children without Disabilities			Children with Disabilities		
	n observed	*n* expected	chi-square ($df = 1$)	*n* observed	*n* expected	chi-square ($df = 1$)
Physical Abuse						
Boys	51 (34%)	74.5	14.83**	12 (48%)	8.55	2.11
Girls	98 (66%)	74.5		13 (52%)	16.45	
Sexual Abuse						
Boys	6 (7%)	41	59.76**	3 (20%)	1.10	3.58
Girls	76 (93%)	41		12 (80%)	13.90	
Neglect						
Boys	45 (57%)	39.5	1.53	12 (71%)	9.69	1.28
Girls	34 (43%)	39.5		5 (29%)	7.31	
Emotional Abuse						
Boys	16 (38%)	21	2.38	1 (50%)	0.76	0.12
Girls	26 (62%)	21		1 (50%)	1.24	
Abuse All Types						
Boys	118 (34%)	176	38.227**	28 (48%)	20.10	4.76*
Girls	234 (66%)	176		31 (52%)	38.90	

Note: *$p < 05$; **$p < .001$

Girls were significantly less represented among children with disabilities when compared to the nondisabled distribution ($p = .023$). No significant differences were found within any of the four categories of abuse. We should note, however, that the chi-square for sexual abuse approached significance ($p = .06$), with the number of boys with disabilities being larger than expected. Small cell frequencies in the disabled group, however, resulted in low statistical power for the statistical tests, and therefore, the results should be interpreted with some caution.

The adolescent data is considerably different from the other age groups. While girls and boys are about equally represented in the younger groups of nondisabled children, adolescent girls are more often among victims of substantiated abuse than adolescent boys. In the disabled group, the number of boys also dropped, resulting in about equal distribution of boys and girls in the adolescent sample. However, boys with disabilities were again overrepresented as victims of sexual abuse.

Discussion

Like many previous studies, this study supported the hypothesis that when all categories of abuse are combined boys and girls are about equally likely to experience child abuse. It also supported the generally accepted hypothesis that girls (with or without disabilities) are much more likely to be victims of sexual abuse than boys. Although the differences in gender distribution were less striking among the children without disabilities, significantly more girls (59%) than boys (41%) were emotionally abused, and conversely, significantly more boys (56%) than girls (44%) were neglected. At first glance, the slight (and statistically insignificant) excess of boys among victims of physical abuse without disabilities does not appear to support the previous findings of Wolfner and Gelles (1993), that is, boys are significantly more frequently physically abused. However, it is important to remember that Wolfner and Gelles did not exclude children with disabilities from their sample, and the very large excess of boys among physically abused children with disabilities may explain the apparent difference in findings. When children with and without disabilities are combined, 56% of the victims of physical abuse are male and 44% of the victims are female, showing an excess of males close to the findings described by Wolfner and Gelles. Moreover, gender distribution was now significantly different from equal: $\chi^2(1, N = 533) = 7.45, p < .01$.

Our results also support earlier reports suggesting that gender differences do indeed exist between abused children with and without disabilities, and more boys than girls are found among children with disabilities who have been abused. Almost two-thirds (65%) of

abused children with disabilities were boys. Boys with disabilities made up a significantly larger proportion of children with disabilities who were physically abused or neglected. In spite of the fact that 64% of emotionally abused children with disabilities were boys, no conclusion can be drawn about emotional abuse because of the small number of cases in this category. Although many more girls (62%) than boys (38%) with disabilities experienced sexual abuse, boys formed a significantly larger minority than they did among sexually abused children without disabilities.

Research on the general population has been fairly consistent in its conclusions that many more girls are victims of sexual abuse than boys (e.g., Dobash, Carnie, & Waterhouse, 1993; Finklehor, 1994). Emerging research on children with disabilities, however, is finding a larger proportion of boys who have been abused than might be expected from research using the general population (e.g., Sullivan, Vernon, & Scanlan, 1987). This study found that among victims of child sexual abuse the percentage of boys with disabilities was consistently higher than the percentage of boys without disabilities and that more boys with disabilities, ages 6–11, were sexually abused more often than girls in the same age range. This is consistent with Sobsey's (1994) conclusion that findings from the nondisabled population may not generalize well to disabled populations.

Our results, however, cannot be interpreted to suggest that girls with disabilities are not at a high risk for maltreatment. Several studies suggest that girls and women with disabilities are more likely to experience violence than girls or women without disabilities (e.g., Doucette, 1986). Several hypotheses could be formulated to explain the higher proportion of boys among abused children with disabilities. While some of these hypotheses are based on a differential increase in the risk of being abused for boys with disabilities, two hypotheses do not require a differential risk construct.

The simplest hypothesis is that more boys than girls have disabilities, whether or not they are abused. If boys and girls with disabilities in our sample experienced the same risk for abuse but more boys had disabilities, then more boys than girls would be expected among the abused children with disabilities. The overrepresentation of boys would simply reflect the larger proportion of boys who have disabilities in the general population. In fact, there are more boys than girls with disabilities, but the difference is probably much smaller than the near two-to-one (91% more boys than girls) found among the abused children in this study. Because some disabilities are sex-linked (and therefore occur for biological reasons more frequently in boys) and because boys show higher vulnerability to some types of injuries and diseases, a slightly larger proportion of males does have disabilities. While the exact proportions of boys and girls with disabilities is known for some specific disabilities, the actual proportions for the total of all childhood disabilities remains virtually

unknown. Estimates place the disability ratio of males to females at about 1:1.1 when all disabilities are combined.

A second and related hypothesis is that disabilities are more likely to be identified among boys than girls. Support for this theory comes from known organic differences in disabilities that suggest that we should expect a *small* excess of males among children with disabilities. Some studies, however, report substantial differences in the number of boys and girls identified as having disabilities. For example, Harmon, Contrucci, and Stockton (1992) found that considerably more boys than girls receive special education services for behavior disorders and learning disabilities. Gottlieb (1987) found that schools required evidence of more severe disabilities to place girls in special education classes than they required to place boys in these classes. All or part of the differences in gender proportions between abused children with and without disabilities could have resulted from a similar tendency to underdiagnose disabilities among girls.

The possibility that the overrepresentation of boys among abused children with disabilities actually reflects an underidentification of disabilities among girls who have been abused cannot be ignored. Crosse et al. (1993) provide some encouragement for this speculation by suggesting that "although relying on caseworker suspicions and knowledge to identify children with disabilities is imperfect, it was the strongest and most feasible of the approaches considered" (p. 2-1). They go on to state that their own attempts to determine if under- or overdiagnosing was a problem suggested that they might have underdiagnosed some disabilities among abused children. However, the extent of underestimation and whether it may have affected girls more than boys remains unknown.

For girls to make up 50% of the abused children with disabilities (roughly the percentage found in the control group), the number of girls with disabilities would have to almost double. Furthermore, a corresponding number of abused girls with undiagnosed disabilities would have to be subtracted from the number previously believed to have no disabilities. The resulting gender proportions among children without disabilities would be almost exactly one to one (49.9% female and 50.1% male). Thus, correction for the possibility of underidentification of girls would produce equal gender proportions in both groups, but it would also result in a significantly larger proportion of the abused children having disabilities. Crosse et al. (1993) concludes that about 14% of all abused children had disabilities; with this speculative correction, about 18% of all abused children in this sample would have disabilities. Similarly, the original study's estimates of relative risk might need to be revised upward, depending on whether the underdiagnosis of abused girls is a reflection of underdiagnosis of disabilities in girls in the general population or if it is exclusive to abused children.

In an informal attempt to evaluate the probability of this hypothesis, we asked 12 experts in childhood disability (i.e., doctoral level training and experience in special education or a closely related discipline) to review the list of 18 disability categories used in the original study and rank each one as likely or unlikely to be underdiagnosed. When at least 10 of the 12 raters agreed, we classified that disability as likely or unlikely to be underdiagnosed. Seven disabilities were identified as being likely to be underdiagnosed, six were identified as unlikely to be underdiagnosed, and five were excluded from analysis because of a lack of agreement by the raters. Among the children who had the disabilities considered least likely to be underdiagnosed, 54% were male, but among those who had the disabilities considered most likely to be underdiagnosed, 65% were male. While this procedure is far from a stringent test of the hypothesis, the results are consistent with the view that underdiagnosis could explain part of the gender proportion disparity between abused children with and without disabilities.

Three other hypotheses can be posited that are unrelated to the proportion of actual or diagnosed disabilities found in boys and girls. First, part of the difference could be explained by differences in reporting rather than actual differences in incidence of abuse. For example, some authors have suggested that sexual abuse of boys is less frequently reported than sexual abuse of girls. If differences in reporting mechanisms result in greater equality in reporting abused boys and girls among children with disabilities, the gender proportions reported for this group may simply reflect a better approximation of the actual proportions of sexually abused girls and boys in the general population.

Second, a theory of social devaluation suggests that children are more likely to be abused because they are socially devalued. Korbin (1987), in discussing a review of cultural influences on child abuse, concludes that the social value given to children has a significant influence on their likelihood of being abused. It could be speculated that American society devalues a number of attributes, including disability, non-White racial classifications, and female gender. Having any one of these "marginalizing" traits would increase risk for abuse, but second and subsequent traits would result in a smaller increases because the individual has already been devalued (Sobsey, 1994). Crosse and colleagues' (1993) finding that disabilities were less common among "Black" and "Hispanic" children than among "White" children is consistent with this hypothesis. Studies that suggest that parents respond more negatively to disabilities in their sons than their daughters may also be seen as consistent with this hypothesis (Henggeler, Watson, Whelan, & Malone, 1990).

Third, an ecological model of child abuse suggests that a disability is more likely to lead male children to environments and situations where abuse takes place. Nonfamilial caregivers of boys are more likely to be male, and nonfamilial caregivers of girls are more

likely to be females. Marchetti and McCartney (1990) found that male caregivers in disability-related services are more likely physically and sexually abusive than female caregivers. Sobsey (1994) reports that 76.9% of children 14 and younger who were sexually abused in an institutional setting were males. The greater physical and social proximity of boys with disabilities to male caregivers may increase their chances of being abused. Testing this hypothesis will require additional study of the relationship between abuse perpetrators and victims among boys and girls with and without disabilities.

Although the gender proportions among abused children with and without disabilities in this sample differed significantly, future research may be required to replicate this finding and systematically extend it to other groups. The fact that there were many more children without disabilities than with disabilities in the sample may increase the possibility of error, although this sample was based on a naturally occuring proportion of children with disabilities and attempts to artificially create samples with equal numbers of children with and without disabilities might introduce new and greater problems. In addition, this study compared a study of cases reported to and confirmed by child protection services. Future researchers may wish to determine if similar gender proportions exist among children with and without disabilities in treatment or among a retrospective study of adults abused as children.

Conclusion

This study supports earlier work suggesting that when all categories of maltreatment are included, boys and girls make up approximately equal proportions of the victims among children in the general population, and specifically among children without disabilities. It also provides further evidence that girls are more frequently among victims of child sexual abuse and boys are more frequently among victims of physical abuse. The gender proportion among children with disabilities who are victims of substantiated maltreatment, however, is substantially different. There are more boys than would be expected from the proportion of boys without disabilities among abuse victims. The difference in gender proportions may result from the underdiagnosis of disabilities among abused girls, from factors that increase the relative risk for boys with disabilities, or from some combination of causes. More research is needed to explain this gender proportion disparity.

Regardless of the reason for the disparity, professionals working in abuse prevention and intervention programs for children with disabilities should be prepared for meeting the needs of boys. The hypothesis that underdiagnosis of disabilities in girls who have been abused suggests a need for further research and, in addition, professionals

working with abused girls should consider the possibility that a significant subgroup have undiagnosed disabilities. In considering the hypothesis of underdiagnosis of girls, it is important to realize that if confirmed it would mean that many more children who are abused have disabilities than have currently been identified.

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RUNNING HEAD: Gender, Disability, and Risk for Abuse

Chapter III

GENDER, DISABILITY STATUS, AND RISK FOR SEXUAL ABUSE IN CHILDREN

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Recent studies have suggested that gender and disability status interact as risk factors for sexual abuse (Sobsey, 1994; Sobsey, Randall, & Parrila, 1997; Sullivan, Brookhouser, Scanlan, Knutson, & Schulte, 1991). All children with disabilities are more likely to be abused than children without disabilities, but a larger proportion of boys recently has been noted among child abuse victims with disabilities than among child abuse victims without disabilities. This increased proportion of boys with disabilities has been demonstrated among all forms of child maltreatment. While boys represent a minority of sexual abuse victims with or without disabilities, they have appeared to represent a noticeably larger minority among child sexual abuse victims with disabilities. For example, Sobsey et al. (1997) found that, while 18% of the American child sexual abuse victims without disabilities were boys, the respective percentage was 38% of the sexual abuse victims with disabilities. This article examines the age, gender, and disability status interaction with a large sample of Canadian victims of child sexual abuse. It extends the findings of existing research by using a Canadian sample and by sampling those under treatment rather than the records of child protection services.

Gender and Sexual Abuse

Existing research has consistently shown that gender is an important factor in child sexual abuse. In a review of eight random community samples, Peters, Wyatt, and Finklehor (1986) concluded that girls are sexually abused 2.5 times more often than boys. More recently, Finklehor (1994) reviewed a number of studies of child sexual abuse from 19 countries and concludes that girls are sexually abused 1.5 to 3 times more often than boys. Similarly, Dobash, Carnie, and Waterhouse (1993) found that 74% of reported sexual abuse cases in the UK involve girls. In the Sobsey et al. (1997) study, about 80% of all child sexual abuse victims are girls. Levine-Powers, Jakitsch, and Eckenrode (1989) reported consistent results concluding that sexual abuse was significantly more likely to involve girls. Cappelleri, Eckenrode, and Powers (1993) summarized data from the Second National Incidence and Prevalence Study of Child Abuse and Neglect and found that girls were sexually abused almost four times as often as boys. Thus, converging results from several different studies clearly show that, in general, girls are sexually abused significantly more often than boys.

Disability and Sexual Abuse

Researchers generally agree that people with a wide range of disabilities experience greater risk for all types of abuse compared to nondisabled populations. Ammerman and Baladerian (1993) conclude that American children with disabilities are maltreated at a rate

that is 4 to 10 times that of American children without disabilities. A study by Verdugo, Bermejo, and Fuertes (1995) indicates that the prevalence of maltreatment was 11.5% for children and adolescents with disabilities attending different Spanish institutions compared to 1.5% for a control group of nonhandicapped children. Crosse, Kaye, and Ratnofsky (1993) report that American children with disabilities were 1.7 times as likely as other children to experience some form of maltreatment in their large-scale study of child abuse. Discrepancies in the extent of increased risk that is reported are likely due to differences in the extent of institutionalization, which has been established to increase the risk for sexual abuse (e.g., Sobsey, 1994) as well as differences in the way that sexual abuse was defined and measured.

Studies that have focused specifically on sexual abuse have provided similar results. Crosse et al. (1993), for example, found that the rate of sexual abuse among maltreated children with disabilities was 1.8 times the rate of maltreated children without disabilities. This is fairly consistent with two Canadian estimates. Doucette (1986) found that women with disabilities were 1.3 times as likely to have been sexually abused as children as were nondisabled women. Sobsey and Varnhagen (1988) reviewed the literature up to that date on sexual abuse of persons with disabilities and conclude that people with disabilities are at least 1.5 times as likely to be sexually abused than nondisabled people.

Several existing studies have indicated that disability status and gender also interact as risk factors of child sexual abuse. In a review of four early studies of the sexual abuse of deaf children in residential settings, Sullivan, Vernon, and Scanlan (1987) found that 54% of deaf boys and 50% of deaf girls were sexually abused as children. This finding contrasts strongly with the results from the studies of children without disabilities cited above. Based in part on the same data used by Crosse et al. (1993), Sobsey et al. (1996) found a significant gender and disability interaction for sexual abuse using a large and nationally representative sample of US children between the ages of 1 and 17. Twice as many boys with disabilities were victims of sexual abuse than might have been expected on the basis of the nondisabled sample. Moreover, while boys with disabilities experienced increased risk for sexual abuse in all age groups, the increase was most pronounced in the elementary school-age group (from 6 to 11 years of age). Sobsey et al. conclude that research on nondisabled populations might not generalize well to populations with disabilities in this area.

Sobsey (1994) reviewed a number of studies of sexual abuse of children and adults with disabilities and concluded that "boys with disabilities constitute a larger percentage of victims of sexual abuse than might be expected from studies of populations without

disabilities" (p. 81). Sobsey offers a number of hypotheses for this difference but concludes that there is insufficient information to determine the reason for the atypical gender distribution among abused children with disabilities.

A possible relationship between disability and gender has also been reported among adults who have been sexually assaulted. Stermac, Sheridan, Davidson, and Dunn (1996), reporting on adult Canadian males who were sexually assaulted, note that "a surprisingly high number of the men had disabilities" (p. 57). Although their sample was small (n=29), making it difficult to generalize to the larger population, 14% (4) had physical disabilities and 21% (6) had mental disabilities.

Taken together, the above studies indicate that children with disabilities are at a higher risk for sexual abuse than children without disabilities and that disability status increases the risk of being sexually abused, particularly for boys. Also, it seems that there are age-related differences in the risk for child sexual abuse.

The purpose of this article is to examine the gender and disability status interaction with a large sample of Canadian victims of childhood sexual abuse. In addition, it examines whether gender and disability status interaction is similar across different age groups of children. The specific questions asked in this study are: (1) Is the effect of gender on the risk for being sexually abused the same for children with and without disabilities? and (2) If gender by disability status interaction is found, is this interaction the same across different age groups? This study was undertaken to determine if the gender patterns found in an American sample would generalize to a Canadian sample and if the gender patterns seen in a Child Protection Services sample would generalize to a sample of children receiving treatment for the effects of sexual abuse.

Replication of the study with a sexual abuse treatment sample to determine if similar patterns exist is important for three reasons. First, since child abuse is a covert phenomenon with unclear population parameters, it is important to test hypotheses in varied samples. For example, since there could be differences in the likelihood of cases of abuse reported to child protection agencies based on gender or disability, a finding based on a sample of reported cases might not represent actual differences in the gender proportions of abused children. Second, since many of the children in most child protection samples experience multiple forms of abuse, the gender proportions in the sample may be distorted by the effect of other forms of abuse. For example, if sexually abused children who are also physically abused are more likely to be called to the attention of child protection workers and physical abuse occurs more often among males, it may produce an artificially increased proportion of male sexual abuse victims in this sample. Third, the use of a

treatment sample obviously provides the best model for consideration in planning and implementing treatment services.

Method

Participants

Moskal (1995) originally collected data used in this study from 452 consecutive client files provided by a sexual assault treatment centre in western Canada. These files represented all clients admitted to treatment at the centre during a 2 year period. Some clients were children who had been recently abused, and others were adults who had been victims of child sexual abuse in the past. Since some participants were now adults, although under treatment for abuse that occurred during childhood, there was a wide age range (2 to 60) among participants.

During the initial data collection, children were considered to have a disability if they had been previously diagnosed as having a sensory, mental, or physical disability. Diagnostic labels included auditory handicap, visual handicap, mobility problem, neurological impairment, borderline or low intelligence, developmental disability, autistic behavior, learning disability, attention deficit hyperactivity disorder, fetal alcohol syndrome or fetal alcohol effect, psychological maladjustment, and other specified disabilities.

The primary criterion for inclusion in the current study was the availability of information about the age, gender, and disability status of the abused child at the time of the abuse. Sixty-five cases were eliminated because this information was not complete. After these criteria were applied, the final sample included 100 males and 287 females. Twenty-eight percent of the males ($n = 28$) and almost 20% of the females ($n = 56$) were identified as having a disability.

The mean age of the onset of abuse for the participants with disabilities was 7.31 years ($SD = 4.29$), and the mean age of the onset of abuse for the participants without disabilities was 6.16 years ($SD = 3.93$). For the participants with disabilities, there was an average of a 7-year span between the onset of abuse and the initiation of treatment, while for the participants without disabilities there was a 5-year span. The mean age at which the participants with disabilities entered counselling was 14.30 ($SD = 8.26$), and the mean age at which the participants without disabilities entered counselling was 11.11 ($SD = 6.33$).

Age Groups. To increase the specificity of the analyses, the total sample was divided into three separate age groups, which were based on the child's age at the onset of abuse. These age groups were preschoolers (ages 1–5), elementary school-age (ages 6–11), and adolescents (ages 12–17). The preschool sample included 23 girls with disabilities (mean age of first abuse 3.17 years, $SD = 1.47$), 106 girls without disabilities (mean age of

first abuse 3.45 years, *SD* = 1.27), 10 boys with disabilities (mean age of first abuse 3.20 years, *SD* = 1.32), and 46 boys without disabilities (mean age of first abuse 3.48 years, *SD* = 1.21). Thus, the total sample size in this group was 185.

The elementary school sample included 18 girls with disabilities (mean age of first abuse 7.72 years, *SD* = 1.60), 98 girls without disabilities (mean age of first abuse 7.89 years, *SD* = 1.56), 15 boys with disabilities (mean age of first abuse 8.13 years, *SD* = 1.81), and 25 boys without disabilities (mean age of first abuse 7.84 years, *SD* = 1.70), for a total sample size of 156.

Finally, the adolescent sample consisted of 46 children: This included 15 girls with disabilities (mean age of first abuse 13.80 years, *SD* = 1.61), 27 girls without disabilities (mean age of first abuse 13.30 years, *SD* = 1.32), 3 boys with disabilities (mean age of first abuse 13.67 years, *SD* = 2.08), and 1 boy without disabilities (age 13).

Results

The purpose of this study was to compare whether the number of children receiving treatment for sexual abuse varies according to the gender, disability status, and age of the child. Two specific questions were asked: (1) Is the effect of gender on the incidence of sexual abuse the same for children with and without disabilities? and (2) If gender by disability status interaction is found, is this interaction the same across different age groups?

In order to test the first hypothesis, the observed gender distribution of the nondisabled group was used as a criterion against which the gender distribution of the disabled group was compared. Thus, Tables 3-1 and 3-2 report first the observed frequencies (percentages in parentheses) of the maltreated boys and girls without disabilities, the observed frequencies (percentages in parentheses) of the maltreated boys and girls with disabilities, the expected frequencies for children with disabilities based on the observed frequencies of nondisabled boys and girls, and, in the last column, the results from a One-Sample chi-square test comparing the observed and the expected frequencies for children with disabilities. We first present results for the entire sample of 387 victims of child sexual abuse. This is followed by separate analyses for the preschool, elementary school, and adolescent samples.

Disability Status and Child Sexual Abuse

Table 3-1 shows the observed and expected frequencies for boys and girls with and without disabilities for the entire sample. The results from One-Sample chi-square tests

comparing the observed and expected distributions for the disabled group are also shown in Table 3-1.

Table 3-1.Gender distribution of sexually abused children with and without disabilities (chi-square value shows the difference between n observed and n expected).

	Children without Disabilities	Children with Disabilities		
	n observed	*n* observed	*n* expected	chi-square ($df = 1$)
Boys	72 (24%)	28 (33%)	20	4.21*
Girls	231 (76%)	56 (67%)	64	

Note: *$p < .05$

Table 3-1 indicates that the effect of gender was not equal for children with and without disabilities in this sample. Similar to previous studies, boys represented a larger proportion of the sexually abused children with disabilities than of the children without disabilities. While about one-fourth of nondisabled victims of abuse were boys, the proportion of boys among the disabled victims of abuse was significantly larger at one third. While girls were a majority in both groups, boys were a significantly larger minority among children with disabilities who had been abused.

Table 3-2. Gender distribution of abused children with and without disabilities in the three age groups (chi-square shows the difference between n observed and n expected).

	Children without Disabilities	Children with Disabilities		
	n observed	*n* observed	*n* expected	chi-square ($df = 1$)
Preschool Age				
Boys	46 (30%)	10 (30%)	10	.000
Girls	106 (70%)	23 (70%)	23	
Elementary School Age				
Boys	25 (20%)	15 (45%)	6.7	12.91**
Girls	98 (80%)	18 (55%)	26.3	
Adolescents				
Boys	1 (4%)	3 (17%)	0.6	8.97*
Girls	27 (96%)	15 (83%)	14.4	

Note: * $p < .01$; ** $p < .001$

Effect of Age

Table 3-1 indicates that gender and disability status interact as risk factors for child sexual abuse. In order to examine whether there are age-related differences in this interaction, Table 3-2 presents the observed and expected gender distributions separately for the three age-groups, preschool age (1 to 5 years of age), elementary school age (6 to 11 years), and adolescents (12 to 17 years). These groups were based on the information about age at the onset of the abuse rather than the age of the victims when they entered counselling.

Table 3-2 shows that among the youngest victims of sexual abuse the proportion of boys and girls was the same for children with and without disabilities. Thus, disability status did not interact with gender as a risk factor for children whose sexual abuse began during early childhood.

There is a clear difference, however, for elementary school-age children. Within this age group, disability status was significantly associated with gender as a risk factor for child sexual abuse. The observed frequencies in Table 3-2 indicate that almost half of the sexual abuse victims with disabilities were boys, whereas in the nondisabled group, only one-fifth of the victims were boys.

Boys with disabilities were also overrepresented among the adolescent victims of sexual abuse. The small number of adolescent boys with and without disabilities in this sample, however, suggests a need for caution in interpreting the significant chi-square value for this age group.

Figure 3-1 displays the age by disability status interaction in a different manner. The Y-axis in Figure 3-1 represents the proportion of abused children with and without disabilities whereas the X-axis shows the age at which the sexual abuse began.

Figure 3-1 indicates that in this sample girls without disabilities were most likely to be sexually abused between the ages of 2 to 10. Boys without disabilities were likely to be younger than 6 years of age at the onset of sexual abuse, whereas very few boys without disabilities were sexually assaulted for the first time after the age of 7 and none after the age of 13. For children with disabilities, the numbers in Figure 3-1 indicate that the risk for being sexually abused for the first time did not decrease with age. Instead, boys with disabilities were equally likely to be 3 or 11 years of age when the abuse began. For girls with disabilities, age did not seem to be a good predictor of the risk of being sexually abused for the first time, with no apparent drop in the frequency at any particular age.

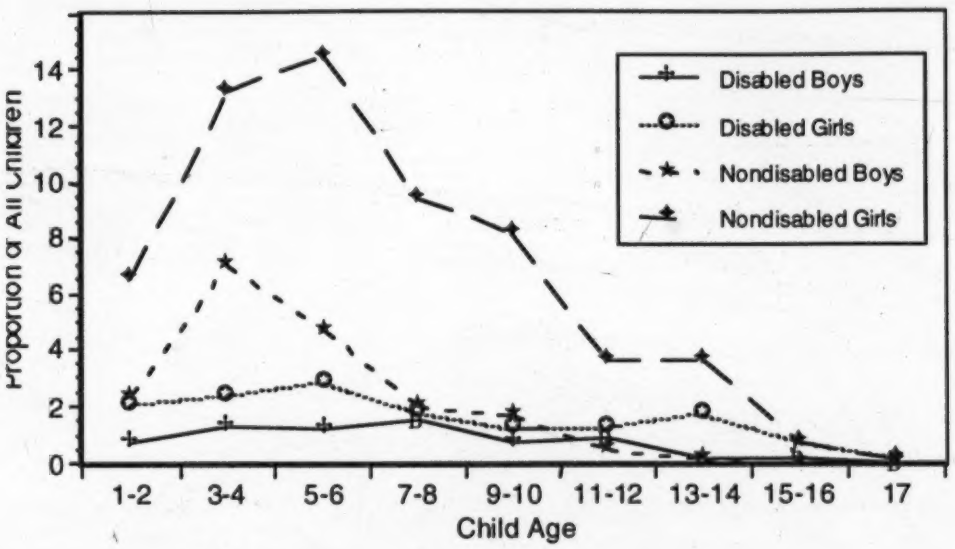

Figure 3-1. The relative proportions of boys and girls, with and without disabilities, according to when their abuse began.

Taken together, Table 3-2 and Figure 3-1 indicate that the increased proportion of boys with disabilities among the sexually abused elementary school children does not result from decreased risk for girls with disabilities. Rather, it results from the significantly decreased likelihood that boys without disabilities would be sexually abused for the first time after the age of seven. Several possible reasons for the increased difference between children with and without disabilities are discussed below.

Discussion

Our results support the earlier findings suggesting that gender differences do indeed exist between abused children with and without disabilities, and that disabled boys are especially vulnerable to abuse. The findings of this study are consistent with those of previous research (Sobsey et al., 1997) using an American sample of sexually abused children reported to child protection services, and extend those findings geographically to Canada and also to a treatment sample.

Table 1 shows that boys with disabilities make up a significantly higher percentage of sexually abused children with disabilities between the ages of 1 and 17 than would be expected from the percentage of boys among sexually abused children without disabilities. The difference between the disabled and nondisabled groups was particularly large for elementary school-age children. This difference seems to result from the inverse relationship between age and risk of sexual abuse for boys without disabilities. While girls

without disabilities also seem to be less at risk with increasing age, their risk seems to drop a few years later than that of boys. For children with disabilities, increase in age does not seem to result in decreased risk of being sexually abused.

Before offering other explanations for the observed effects of gender, disability status, and age on sexual abuse, we should note some limitations of the current study. First, the nonrandom nature of the sampling procedure affects the generalisabity of the results. In addition, possible biases in the clients' memories of traumatic events may be a factor in that the time difference between the reported onset of abuse and client's entering counselling was 7 years for people with disabilities and 5 years for people without disabilities. Furthermore, reliability may be a factor in the initial record keeping by the original counsellor and in the interpretation of the files for coding variables. We believe, however, that these biases are likely to occur randomly and the effects are reduced over the sample. The consistency of these findings with previous studies from other samples provides some assurance in this regard.

Nevertheless, the source of the data may have also introduced a more systematic bias. It is possible that the drop in adolescent victims without disabilities in our sample resulted from the fact that older victims have access to a variety of other agencies (e.g., rape crisis centres), while such services are often unavailable to victims with disabilities (e.g., Sobsey, 1994). Finally, 28% of the males (n = 28) and 21% of the females (n = 84) were identified as having a disability. In general, the number of people with disabilities represents roughly 9% of the population (Crosse et al., 1993). There are two probable reasons why our sample included a high number of people with disabilities: (1) disability status by itself increases the risk for sexual abuse as was noted in the introduction, and (2) files originated from an agency that, in addition to serving nondisabled clients, was receiving special government funding to serve clients with disabilities. Given the congruence of our findings with those of previous studies, the first explanation is likely to explain at least a major part of the increased number of participants with disabilities. Moreover, neither of these factors is likely to contribute to the gender by disability status interaction observed in this study.

The inverse relationship between age and abuse for children without disabilities may be partially explained by the increasing self-protection capabilities these children develop. Increasing communication skills, physical self-defense abilities, and abilities that assist individuals to escape or avoid abusive situations are more likely to avert inappropriate advances by potential offenders. These self-protection abilities are less likely to be developed in same-age children with disabilities. Other factors, such as a tendency for older

victims of sexual abuse to be less likely to enter treatment or more likely to find treatment at other agencies, may also contribute to this pattern.

Increased vulnerability of children with disabilities can be attributed to several variables closely linked to the presence of a disability. Devaluing social attitudes towards people with disabilities often promote segregation into institutions, residential care facilities, and special schools, all of which increase the potential for abuse through greater exposure to potential offenders in the guise of caregivers as well as restricted access to individuals who act on disclosures (Westcott, in press). The nature of many children's disabilities make the provision of intimate care necessary throughout their lives, increasing their vulnerability to abuse. In addition, compliance training, lack of decision-making powers, and the absence of sex education combine to increase abuse of persons with disabilities.

Many of the risk factors can be reduced through changing two aspects of the lives of children with disabilities. Increasing the value society assigns to children with disabilities will increase the taboo associated with sexual abuse. In the absence of this taboo, helping people with disabilities develop more effective communication skills may decrease the risk by both increasing the child's ability to say "no" to the abuser and by increasing the likelihood of disclosures of abuse. For this to work, however, there must be people willing to listen and act on the abuse disclosures as well as child protection workers trained to work with children with disabilities.

Research on the general population has been consistent in its conclusions that girls are victims of sexual abuse at a much higher rate than boys (e.g., Dobash, Carnie, & Waterhouse, 1993; Finklehor, 1994). Research on populations of children with disabilities, however, is starting to demonstrate that disability increases the risk, particularly for boys (e.g., Sobsey et al., 1997). Our results support a similar conclusion. This is consistent with the suggestion that findings from the nondisabled population may not generalize well to disabled populations (Sobsey, 1994).

Why does disability increase the proportion of known sexual abuse victimization more for boys than for girls? Several types of explanations exist. One explanation suggests that differences in reporting sexual abuse or in identifying disabilities may create apparent differences that are unrelated to real differences in risk. A second explanation suggests that disability actually increases risk of sexual abuse more for boys than for girls. A final possibility is that complex factors involve both greater increases in risk for boys with disabilities than for girls with disabilities, and differences in identification and reporting magnify those risks.

Sobsey and colleagues (1997) discuss several possible explanations that might produce these apparent differences but do not necessarily require real differences in risk. The fact that more boys than girls have disabilities could account for part but probably not all of the observed differences. The underidentification of disabilities among girls may be a significant factor. For example, Shin, Tindall, and Spira (1987) found that the girls who were below the 16th percentile on reading tests were much less likely to be identified as having learning disabilities than boys with the same level of performance. This kind of gender bias could result in reduced numbers of girls being classified as having disabilities and increased numbers being classified as having no disabilities. As a result the proportion of girls with disabilities would appear lower than it really is, making the proportion of boys with disabilities appear higher by comparison.

Gender-based differences in reporting could also contribute to apparent differences. If boys without disabilities are more reluctant to report abuse than girls, the proportion fo boys among known sexually abused children without disabilities may appear artificially low. If abuse of children with disabilities is more likely to be reported by a third party, reluctance to disclose may have less relevance to boys with disabilities.

Several other hypotheses suggest real differences in relative risk for boys and girls. Social devaluation of children with disabilities has been suggested as an important factor increasing their risk for abuse. This theory suggests that, in a society where girls are already devalued additional devaluation related to disability affects them less than it does boys.

Institutionalization and services to children with disabilities may also play a role. Paid caregivers of boys are more likely to be male than are paid caregivers of girls, and several previous studies suggest that paid caregivers are responsible for a significant amount of abuse of children with disabilities. Male caregivers are more likely to be physically and sexually abusive than female caregivers (Marchetti & McCartney, 1990). Thus, caregivers who are more likely to offend are selectively assigned to care for boys, and the system provides more opportunities for them to abuse boys than girls.

Testing the validity of the alternative explanations will require additional studies that collect detailed information on perpetrators and contexts of sexual abuse. It seems likely that many of the possible mechanisms described here, along with various other mechanisms that are still to be identified, interact to produce the differences described here.

While the precise reason for these findings remains a matter of speculation, several implications are clear from the current findings. Girls with and without disabilities remain the most frequent victims of sexual abuse, but boys are a significant minority. Boys

represent a particularly large minority among abused children with disabilities. Therefore, the needs of boys must be considered in planning prevention and treatment programs.

Conclusion

This study supports earlier work suggesting that disability status increases the risk of sexual abuse for all children but particularly for boys with disabilities. More boys with disabilities are victims of sexual abuse than would be expected on the basis of the proportion of boys without disabilities who are sexually abused. This is likely the result of increased exposure of males to potentially abusive situations, combined with a greater likelihood that male victims of abuse will be diagnosed as having disabilities. Awareness that boys with disabilities are sexually abused at a relatively high rate needs to be considered in the development of prevention and treatment programs, which must meet the needs of both boys and girls. Children with disabilities are more likely to be abused than other children, and their needs must also be considered when developing prevention and treatment programs. Because of the relationship between gender and disability, it is particularly important to consider the needs of children with disabilities when planning services for boys and adolescent males.

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RUNNING HEAD: Ethnicity, Disability, and Risk of Abuse

Chapter IV

ETHNICITY, DISABILITY AND RISK FOR ABUSE

Crosse, Kaye, and Ratnofsky (1993) report that when White children have a disability they appear to have greater risk for abuse compared to their nondisabled peers. They also report that the presence of a disability does not appear to be associated with an increased risk in African-American children. The apparent strong interaction between Racial/ethnic group and disability status reported by Crosse et al., if confirmed, might help reveal distinct factors that increase risk for children with disabilities. For example, a number of theorists have suggested that cultural attitudes and beliefs may be critical factors increasing the risk for children with disabilities (e.g., Sobsey, 1994). In addition, if an increased risk for children with disabilities is a phenomenon unique to White families, prevention and treatment programs may need to specifically target these families. Furthermore, if all of the increased incidence of abuse associated with disability found by Crosse et al. can be attributed to an increased incidence among one subgroup (i.e., White Families), disability must be considered an even larger risk factor among this group. However, before developing theories based on a disability-ethnicity interaction or altering service planning, it is essential to confirm that the interaction between ethnicity and disability is genuine. Since the ethnicity-disability relationship reported by Crosse et al. was not a central focus of their analysis or report, a more detailed analysis of the interaction is required.

Ethnicity and Abuse

In the analysis of their data and subsequent report, Crosse et al. (1993) use the label Race/Ethnicity. In this reanalysis of their data, the term ethnicity is used to describe the Race/ethnicity variable from the origional dataset. In an effort to remain consistent, this term will be used throughout this paper and should not be taken to trivialize the differences between culture, Race, and Ethnicity, but rather to simplify the text. The assignment of subjects to one of the Ethnic groups was made by the intake worker at the time of the origional report to the Child Protection Service agency as will be described later.

Racial and ethnic differences have been identified as important variables in reported cases of child maltreatment. In particular, African-American children have consistently been shown to be overrepresented among children reported for child maltreatment (Lindholm & Willey, 1986; U.S. Advisory Board on Child Abuse and Neglect, 1995). In an analysis of almost 15, 000 child sexual abuse cases from Indiana, Tzeng and Schwarzin (1990) found that African-American children were more than 1.5 times more likely to be sexually abused than White children. When investigating the relationship between child maltreatment and disabilities, Sullivan and Knutson (1997) merged archival data from over 40,000 children enrolled in the Omaha Public School (OPS) System in the 1995-96 school year, with

databases from the Central Registry, the Foster Care Review Board, and the Police. They found that African-American children comprised 29.7% of the OPS population and 42% of the samples of abused children with and without disabilities. This suggests a risk factor that is approximately 1.4 times higher than expected. Similarly, research conducted by the National Research Council (1993) found that ethnic minorities are overrepresented overall, but it suggests that this overrepresentation may simply reflect the equivalent overrepresentation of minorities among the poor, thereby confounding the relationship between reported abuse and ethnicity with the relationship between reported abuse and poverty. In an attempt to clarify these relationships, Levine, Doueck, Freeman, and Compaan (1996) conclude that, although maltreatment may be related to poverty, it is an insufficient explanation for the increased maltreatment rates for African-American children. In addition, while poverty affects nearly one in three Hispanic families, roughly the same rate as African-American families, they do not appear to be overrepresented in child abuse and neglect cases (U.S. Advisory Board on Child Abuse and Neglect, 1995).

Another hypothesis as to why there appear to be ethnic differences in the number of children reported for maltreatment suggests that the differences in referral sources and differential caseworker attention explains the overrepresentation of African-American children reported as abused. Levine et al. (1996) evaluated this hypothesis and concluded that, while these variables may contribute to the increased number of African-American children in the child protection system, they are inadequate to explain the full extent of the overrepresentation of African-American families reported for child maltreatment. Ards and Harrell (1993) also found that, for cases of child abuse and neglect, ethnicity was not a factor in caseworker attention. In addition, an analysis of factors associated with decisions to substantiate child sexual abuse reports conducted by Eckenrode, Munsch, Powers, and Doris (1988) found that ethnicity of the child showed no relationship with substantiation. Overall, there appear to be differences in a number of variables between African-American children and White children reported as abused. These differences, however, do not provide a simple explanation for differences in rates of reported abuse.

A nationally representative survey of child protection service agencies in the United States, conducted by Crosse et al. (1993), found that African-Americans made up 400, or almost 35%, of the 1147 school aged children reported for maltreatment. Data from the U.S. Department of Education has established that African-American children constituted 16% of the school population in 1991 (U.S. Department of Education, 1992). Using these sources one can conclude that among school-aged children, African-American children's risk of abuse is approximatly 2.2 times higher than expected given their representation in the general population.

In summary, there is competing evidence regarding Ethnic differences in maltreatment of children. Nevertheless, it appears that African-American children are overrepresented in the number of children reported for abuse each year. It is important to remember, however, that the reasons for this overrepresentation among abuse victims remains unknown. While no causal inferences should be made, it suggests a need for research in order to explore this relationship.

Disability and Abuse

Research has consistently demonstrated that children with any of a wide variety of disabilities are more likely to be abused than children without disabilities (e.g., Ammerman & Baladerian, 1993; Crosse et al., 1993). Furthermore, this phenomenon is demonstrated to be consistent across national boundaries (Cohen & Warren, 1990; Verdugo, Bermejo, & Fuertes, 1995). Several reasons have been suggested, including impaired communication, decreased self-defense abilities, and greater exposure to potential offenders, which, in turn, are compounded by a variety of other environmental and cultural factors (Sobsey, 1994).

In an analysis of a nationally representative sample of abused U.S. children, Crosse et al. (1993) concluded that children with disabilities were 1.7 times more likely than other children to experience some form of maltreatment. The above finding may, however, underrepresent the numbers of abused children with disabilities as they excluded children in institutional settings. A study by Verdugo et al. (1995) indicates that the prevalence of maltreatment was 11.5% for disabled children and adolescents attending different institutions in Spain compared to 1.5% for a control group of nonhandicapped children, suggesting a risk factor that is almost 8 times that of noninstitutionalized children. Research on institutionalized populations in the United States has shown that as many as 81% of inpatients have experienced major physical or sexual assault in addition to a substantially high incidence of neglect (Roeher Institute, 1995).

Sobsey and Varnhagen (1988) reviewed the literature on sexual abuse, assault, and exploitation of persons with disabilities and concluded that people with disabilities are at least 1.5 times as likely to be sexually abused as people without disabilities. This finding is fairly consistent with Doucette (1986), who found that women with disabilities were 1.4 times as likely to have been sexually abused as children as nondisabled women. Ammerman and Baladerian (1993) cite the need for a national study because of the lack of epidemiological consensus in the literature, and they conclude that children with disabilities are maltreated at a rate that is between 4 to 10 times that of children without disabilities.

Sobsey, Randall, and Parrila (1997) investigated the interaction between gender, disability and abuse and found that males with disabilities were at a particularly high risk

for maltreatment. Their analysis also included age as a risk factor for abuse and revealed that strong age effects exist among the sample of maltreated children. For example, among elementary school-aged children with disabilities, boys made up almost 80% of the abused children, while for children without disabilities, boys made up 53% of the abuse victims. Using another sample of child maltreatment victims, Randall, Parrila, Moskal, and Sobsey (in press) found similar age effects, suggesting the importance of evaluating age differences among victims of maltreatment. While several gaps on the association between abuse and disability exist in the literature, it seems clear that children with disabilities are more vulnerable to abuse.

Ethnicity, Disability, and Abuse

It has also been well-established that African-American and other minority children are overrepresented among children diagnosed with disabilities. This is evidenced by the fact that more minority children are served in special education programs than would be expected given their representation in the general population (Chinn & Hughes, 1987). In 1990, for example, African-American children made up 16% of the total school population but 24-28% of the total number of children served in special education (Harry & Anderson, 1994; National Clearinghouse For Professions in Education, 1991; U.S. Department of Education, 1992). Russo and Talbert-Johnson (1997) reveal that, depending on the disability evaluated, African-American children make up as much as 34% of the total number of children in special education. Thus, children with disabilities are at least 1.5 times more likely to be African-American than expected given their representation in the general population.

Results from Crosse et al. (1993) clearly indicate that children with disabilities are overrepresented in cases of child maltreatment. They conclude that there is a fairly direct relationship between the presence of a disability and the increased risk for maltreatment, which is 1.7 times higher than for nondisabled children. While this increase in risk is significant, the authors report that it does not appear to remain the same across ethnicity. In fact, they found that the relative risk for being abused actually decreases for African-American children when a disability is present. They report that African-American children make up 29.5% of all maltreated children but only 21.5% of maltreated children with disabilities. This is inconsistent with results revealed by Sullivan and Knutson (1997), who found that for African-American children the risk for maltreatment is 1.4 times higher than expected, regardless of disability status. It is unclear why African-American children with disabilities in the Crosse et al. study, who appear to have two separate risk factors, being African-American and having a disability, are underrepresented among the maltreated

children. Crosse et al. only briefly report on ethnic differences in the disability/maltreatment interaction and their analysis did not focus on these variables, however, their preliminary results suggest specific ethnic interactions may exist. As suggested by Crosse et al., further investigation is necessary to help understand this important issue before these results can be used in program development and delivery.

The purpose of this study is to determine whether children reported for maltreatment are abused differently according to their ethnicity and disability status. In order to accomplish this, three specific questions are asked: (1) Do the proportions of African-Americans, White, and Other ethnic groups identified as maltreated in the sample used by Crosse et al. differ from their respective proportions in the general population? (2) Do the ethnic group proportions found for the sample of children with disabilities differ from those found for the group of children without disabilities? and (3) Do any possible differences in ethnic proportions between groups remain stable across various age groups?

Method

Data Collection

The data used by Crosse et al. (1993) and in the current analysis were originally collected for the National Center on Child Abuse and Neglect, as mandated by Section 102(a) of PL 100-294, the Child Abuse Prevention, Adoption, and Family Services Act of 1988. The purpose of that research was to study and report on the incidence of child abuse among children with disabilities, on the relationship between child abuse and children's disabilities, and on the incidence of children who have developed disabilities as a result of child abuse or neglect. This information is available in *A Report on the Maltreatment of Children with Disabilities* (Crosse et al., 1993). The data were provided by the National Data Archive on Child Abuse and Neglect, Cornell University, Ithaca, New York.

The initial large-scale study involved two rounds of data collection after the recruitment of a nationally representative sample of 35 Child Protection Services (CPS) agencies in the United States. During the first round, which involved 4 to 6 weeks of data collection, all cases of child or infant maltreatment that were substantiated by CPS workers became part of the data. This round of data collection resulted in 1249 substantiated cases of child and infant maltreatment, involving 1834 children and 2305 adults. The second round of data collection consisted of telephone interviews with the current or last caseworker of the substantiated cases identified in the first round. Additional information about the children, their disabilities, services received, case status, as well as detailed information about the adults involved with the children, was gathered at that time.

Sample

In the initial data collection, children were considered to have a disability if they met the criteria set out by the Americans with Disabilities Act (P.L. 101-336). This act states that a person is considered disabled if he or she meets two criteria: First, he or she must be suspected of being mentally retarded, hard of hearing, deaf, speech impaired, visually impaired, blind, seriously emotionally disturbed, orthopedically impaired, other health impaired, deaf-blind, learning disabled, or multiply disabled; and second, those impairments must limit his or her functioning in one or more life activities, including mobility, self-care, receptive or expressive language, learning, self-direction, capacity for independent living, and economic self-sufficiency. Although the diagnosis of disabilities for children under the age of one is difficult, this age group has the highest frequency of reported cases of any age group in the sample. In order not to exclude this age group of infants, children identified as disabled because of a perinatal at-risk condition were included: For example, children rated by the caseworkers as being low-birth weight, premature, HIV infected, or testing positive fort alcohol or drug toxicology.

The primary criterion for inclusion in this analysis was that complete information regarding the child's age, disability status and ethnicity was available. The final sample included 1831 children, of which 296 were identified as having a disability. Of the 704 African-American children in the sample, 16.1% (113) had disabilities, 17.6% of the 768 White children had disabilities, and 13.3% of the 361 children from the remaining ethnic groups, had a disability. Mean ages for the ethnic groups were 7.55 (*SD* =4.76), 6.20 (*SD* =4.95), and 7.33 (*SD* =4.98) for Others, African-American, and White, respectively. The mean age for abuse of African-American children was significantly younger than for both the other groups [$F(2, 1796) = 12.975$, $p < .001$].

Although the sample used in this analysis was drawn from the same dataset as that used by Crosse et al. (1993), the criteria for inclusion in the present study differed from that used by Crosse et al. Included in the present sample of children with disabilities are those identified as perinatally at risk due to low-birth weight or being premature or HIV infected or testing positive for alcohol or drug toxicology. While Crosse et al. did not include these groups, we felt that because the diagnosis of a disability under the age of one can be difficult, these conditions represent the best estimate of disability status among these children. This is particularly important given the well-accepted conclusion that this age group of children represent the highest frequency of children reported for abuse (Crosse et al. 1993; Sobsey, 1994).

Results

Table 4-1 shows the results of a One-Sample chi-square test comparing the ethnic distribution of our sample and the distribution found in the general population. In order to

test whether the ethnic distribution for maltreated children differed from that expected in the general population, comparative data from the U.S. Department of Education on demographic characteristics of students was used. In 1991, census data from the U.S. Department of Education reveal that African-American children made up 16% of all children served, White children made up 68%, and Native American, Asian, Hispanic and children from other ethnic groups made up the remaining 16% (Ayers, 1994). These percentages were converted to probabilities and used as a criterion against which the ethnic distribution of the sample was compared. Thus, the first column in Table 4-1 shows the observed frequencies (percentages in parentheses) from our dataset. The second column lists the expected frequencies based on the probabilities explained above. Finally, the results from a One-Sample Chi-Square Test comparing the observed frequencies to expected frequencies are shown in column 3.

Table 4-1. Ethnic Distribution of Maltreated Children (chi-square shows the difference between *n* Observed and *n* Expected)

	n Observed	*n* Expected	chi-square ($df = 2$)
African-American	704 (38.4)	293.3 (16)	773.282*
White	768 (41.9)	1246.4 (68)	
Other	361 (19.7)	293.3 (16)	

Note: * $p < .001$

Table 4-1 shows that, compared to the distribution of African-Americans, White, and Other Americans in the general population, the proportion of maltreated African-Americans is significantly higher than expected. While it was expected that African-Americans would make up 16% of the maltreated children, they actually made up 38%, or almost 2.4 times more than expected, of the maltreated children, confirming earlier findings.

Table 4-2 shows the observed and expected frequencies for African-American, White, and other ethnic groups of children without and with disabilities in our sample. In order to test whether the two groups differed in terms of their ethnic distribution, expected values for the group of children with disabilities in this analysis were generated from the distribution of maltreated children without disabilities from our sample. The results from a One-Sample chi-square test comparing the observed frequencies to expected frequencies are also shown.

As is shown in Table 4-2, the observed and expected rates for African-American children differ by less than 1%. The distribution of African-Americans, White, and Other

Table 4-2. Race distribution of maltreated children with and without disabilities (Chi- Square shows the difference between *n* Observed and *n* Expected for children with disabilities)

	Children without Disabilities	Children with Disabilities		
	n Observed	*n* Observed	*n* Expected	chi-square ($df = 2$)
African-American	591 (38.5)	113 (38.2)	114.0 (38.5)	4.012 N/S
White	631 (41.1)	135 (45.6)	121.7 (41.1)	
Other	313 (20.4)	48 (16.2)	60.4 (20.4)	

Note: N/S - Not Significant

Americans with disabilities across the entire sample does not differ from the ethnic distribution for the maltreated children without disabilities, as suggested by Crosse et al. (1993).

Table 4-3. Ethnic distribution of maltreated children with and without disabilities in the four age groups (chi-square shows the difference between n Observed and n Expected)

	Children without Disabilities			Children with Disabilities		
	n observed	*n* expected	chi-square ($df = 2$)	*n* observed	*n* expected	chi-square ($df = 2$)
Less than one year						
African-American	81 (52.6)	59.1	15.738**	41 (53.9)	29.2	7.770*
White	57 (37.0)	64.5		24 (31.6)	31.8	
Other	16 (10.4)	30.3		11 (14.5)	15.0	
Ages 1 - 5						
African-American	184 (40.4)	174.7	0.802	32 (43.2)	28.4	1.330n/s
White	184 (40.4)	190.6		31 (41.9)	31.0	
Other	87 (19.1)	89.6		11 (14.9)	14.6	
Ages 6 - 11						
African-American	212 (38.0)	214.3	2.078n/s	23 (28.0)	31.5	4.03n/s
White	223 (40.0)	233.8		42 (51.2)	34.4	
Other	123 (22.0)	109.9		17 (20.7)	16.2	
Ages 12 - 17						
African-American	110 (32.4)	130.6	5.690n/s	16 (27.1)	22.7	7.359*
White	152 (44.7)	142.5		35 (59.3)	24.7	
Other	78 (22.9)	67.0		8 (13.6)	11.6	

Note: $*p < 05$; $**p < .001$

Table 4-3 compares the ethnic distribution of children with and without disabilities in various age groups in order to determine whether the ethnic distributions remain stable. The first column for each group lists the observed frequencies from the dataset (percentages in parentheses), followed by the expected frequencies based on the ethnic distribution of the entire sample of maltreated children. The last column shows the results of a One - Sample chi-square tests comparing the observed and expected frequencies.

Table 4-3 shows that the overall, proportional distribution for the entire sample of maltreated children, as indicated by expected frequencies, does not adequately represent all age groups. Indeed, for children under the age of one, the observed ethnic distribution differs significantly from the expected frequencies for children with and without disabilities. In this age group, the frequency of maltreated African-American children is 1.4 times higher than expected for both children with and without disabilities. In addition, the distribution is significantly different for children with disabilities between the ages of 12 and 17, and it approached significance ($p = .058$) for nondisabled children in this age group as well. Small cell frequencies particularly for the "Other" children in the group with disabilities, however, resulted in low statistical power for the statistical tests, and therefore, the results should be interpreted with some caution. For this age group the ethnic distribution is the opposite of that shown in the infant age group. The observed frequency of African-American children is actually lower than expected for children with and without disabilities. In addition, among children with disabilities ages 1– 5, African-American children make up the largest group (43%) of maltreated children.

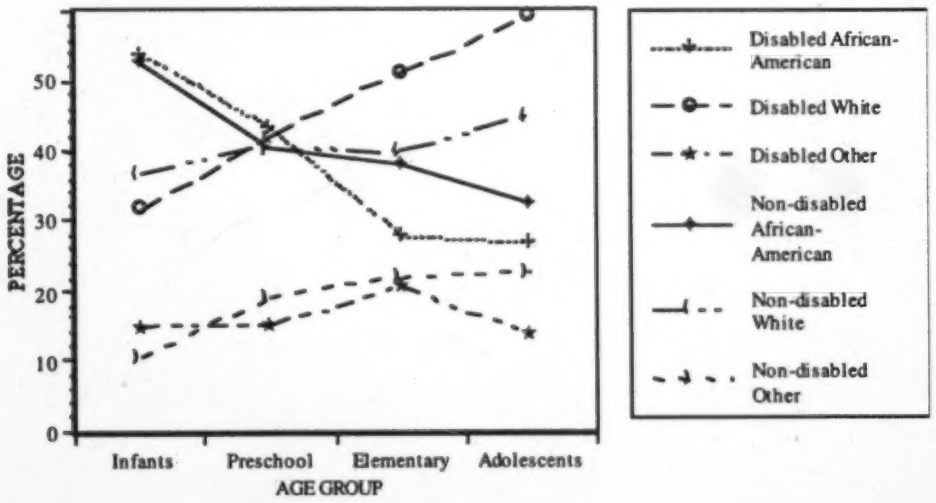

Figure 4-1. The percentage of children with and without disabilities according to their Ethnicity.

Figure 4-1 displays the age and ethnicity status interaction for maltreated children with disabilities in a different manner. The Y-axis in Figure 4-1 represents the proportion (in percent) of maltreated children with and without disabilities, whereas the X-axis shows the children's age groups.

Figure 4-1 indicates that, in this sample, African-American children were most likely to be abused as infants, while White children with disabilities are most likely to be abused between the ages of 12 to 17. The interaction between age and ethnicity for African-American children shows a downward trend as children get older. The reverse is true for White children. Figure 4-1 reveals that as White children get older, their relative proportion among maltreated children with and without disabilities increases. This is particularly true for children with disabilities. In this sample, White adolescents with disabilities represent the highest proportion of maltreated children

Taken together, Table 4-3 and Figure 4-1 demonstrate that as children grow older there is an inverse relationship between African-American and White children with and without disabilities with respect to reported maltreatement. For children from other ethnic backgrounds, the risk remains relatively stable. Several possible reasons for the these differences are discussed below.

Discussion

The results of our analysis on the ethnic distribution of maltreated children with and without disabilities differ in some respects from those reported by Crosse et al. (1993). They report that the risk for maltreatment among African-American children is reduced with the presence of a disability. While Crosse et al. correctly point out a difference between African-American and White children in regard to the relationship between disability and abuse, this difference is largely due to their exclusion of the youngest group of abused children from their analysis. When all subjects in the original data set are included in the analysis, abused African-American children and White children did not differ significantly with regard to disability status. When viewed by age grouping, African-American children with disabilities were most likely to be found among the youngest abused children. In contrast, disabilities were more likely to be found among abused White children in the oldest age category.

It has been well-established that children under the age of one are overrepresented in the number of children maltreated each year (e.g., U.S. Advisory Board on Child Abuse and Neglect, 1995). The inclusion of this group is judged to provide a sample that is more representative of the true ethnic distribution. For that age group of maltreated children with and without disabilities, African-American children made up 53%, White 35%, and Other

12%. Without the inclusion of these children the results do not differ significantly from those reported by Crosse et al. (1993).

The ethnic distribution of children under the age of one differed significantly from the distribution when all ages were combined. In addition, there was a much higher rate of disabilities in this age group than was found in the other age groups. Indeed, 34% of the African-American, 30% of the White, and 41% of the Other maltreated infants were identified as having a disability. This unusually high rate of disabilities among this group of infants suggests a need for further evaluation.

Our analysis showed that, when all ages of children are combined, the relative risk for abuse of African-American children remains stable regardless of disability status. When broken into age groups, however, the proportion of maltreated African-American children decreases as the proportion of White children increases. There may be several explanations for the decrease in proportion of African-American children in the older groups of children. First, African-American children are overrepresented among the youngest age group of children. Early involvement from child protection service agencies may result in removal of the child from the home, thus reducing continuation of maltreatment that would be reported to child protection services. While children in foster care have been shown to be maltreated at a higher rate than children living with their biological parents, foster care perpetrators are more likely to be reported to police services and not recorded in the data analyzed here (Spencer & Knutson, 1992). In addition, the mandate of Child Protection Service agencies is to provide enough support to the parents that they can provide adequate care to children, hopefully reducing further maltreatment. Second, the decrease in relative risk for maltreatment for African-American children may decrease simply as a function of White children's increase.

The significant overrepresentation of African-American children in this study supported the hypothesis that these children are more likely to be reported for maltreatment than their peers from other ethnic groups. Based on their representation in the school system, it was expected that African-American children would make up approximately 16% of the maltreated children in the sample. In fact, African-American children made up almost 35% of the maltreated school-aged children in this sample. This suggests that, for this group of children, the risk for maltreatment is approximately 2.2 times higher than expected. To explain differently, suppose a population was made up 100 African-American and 100 White children. Further suppose that in this population the percentage of maltreated children is 10% for White children, 20% for African-American children and the presence of a disability creates an additive risk of 10. The result would be that the risk factor would double for White children, 10% to 20%, but for African-American chidren the

risk would be increased by 1.5 times. Although the risk factor is characterized by a "times" factor, the increased risk with the presence of a disablity is not likely multiplied, but rather an additive risk.

The ethnic distribution of children under the age of one differed significantly from the distribution when all ages were combined. In addition, there was a much higher rate of disabilities in this age group than was found in the other age groups. Indeed, 34% of the African-American, 30% of the White, and 41% of the Other maltreated infants were identified as having a disability. This unusually high rate of disabilities among this group of infants suggests a need for further evaluation.

Both the presence of a disability and being African-American have been shown to increase a child's risk for maltreatment. When these attributes are combined, however, it does not appear to result in a linear increase in risk for abuse. A theory of social devaluation suggests that children are more likely to be abused when they are socially devalued. Korbin (1987) concludes that the social value given to children has a significant influence on their likelihood of being abused. Having any one of a variety of "marginalizing" traits would increase risk for abuse, but second and subsequent traits would result in smaller increases because the individual has already been devalued (Sobsey, 1994). Related to this hypothesis is the notion that cultural differences likely exist in how people with these marginalizing traits are perceived. For example, in some traditional North American Indian cultures, social tolerance is common and people are not labeled according to their disability status; the value assigned to that person is thought to be in what can be learned from that person (Red Horse, 1998). In some Asian cultures gender differences exist in social value given to children and likely affects the incidence of maltreatment (Hong & Hong, 1991). D'Antonio, Darwish, and McLean (1993) suggest that child maltreatment is less likely in societies in which children are valued for their economic utility, for perpetuating family lines, or as sources of emotional pleasure. They further report that even among societies that value children, some children are more valued and this value may be manifest in various forms of maltreatment. These relationships are complex and should be explored further to determine how cultural differences can influence the risk for abuse.

The social devaluation theory can also be used in combination with an ecological model of child abuse that suggests a disability is more likely to lead children to environments and situations that are less safe. The greater physical and social proximity of children with disabilities to risky environments, the greater their chances of being abused. It could be speculated that a decreased social value could be assigned to African-American children that would result in them being placed in situations that have fewer protective

mechanisms in place. For example, care providers may have to go through less rigorous screening procedures before employment with African-American children. This hypothesis requires further investigation before any conclusions can be drawn.

Levine et al. (1996) found that a difference existed between African-Americans and White children regarding the referral source, in their sample. They found that for African-Americans more referrals came from medical sources, while for White children, the primary sources of referral was through law enforcement agencies and schools. Nationally, African-American families are also more likely to utilize public rather than private health care, where there tends to be low physician familiarity and a greater likelihood of reporting (Pierce & Pierce, 1984). Our analysis supports the finding that, for cases in our sample for which the reporter is known, African-American children are primarily referred by medical sources, but more White children are referred by family, friends, or perpetrators themselves. The most likely referral source for children from Other ethnic groups is from the school. Overall, a significant difference exists between the three ethnic groups identified in our sample in terms of who is reporting children for maltreatment [$X^2(6, N = 1725) = 53.71, p < .001$]. Whether or not the referral source can account for the significant difference between the ethnic groups represents an area for further study.

The type and severity of the disabling condition has been associated with differential risk factors for abuse as well. For example, behavioral/emotional disorders have been shown to be associated with higher incidences of abuse (Crosse et al., 1993). Sullivan and Knutson (1997) found that approximately 50% of the children identified as having a mental or a psychiatric disorder were physically abused. In addition, almost 57% of the children with behavior disorders were maltreated. Interestingly, researchers also found that 37% of children with Speech/language impairments were maltreated. Whether an interaction effect exists between the type of disability and ethnic background in terms of relative risk factors for maltreatment, is an area that warrants further investigation.

Using data from the General Accounting Office (U.S. Department of Education, 1992) it was expected that, among African-American children, slightly over 11% would have disabilities. In our sample, 16% of the maltreated African-American children had disabilities, suggesting a risk factor for maltreatment that is 1.4 times higher than expected. Using similar comparative data for White children, the risk is 1.8 times higher with the presence of a disability. While this suggests that the increased risk does not appear as large for African-American children, it is important to keep in mind that African-American children are already overrepresented among maltreated children, with an overall increased risk that is approximatly 2.2 times higher.

There are a number of limitations that need to be considered when interpreting the results of this study. First, records from Child Protection Service agencies are primarily from cases of intrafamilial abuse, while extrafamilial abuse is more likely to be recorded in law enforcement records (Flango, 1988). Second, the previously mentioned absence of institutional information likely contributes to an underestimation of children with disabilities in the sample. As suggested by Bumbarger (1996), it has been demonstrated that minorities, and particularly African-American males, are being confined in numbers far greater than their numbers in the general population. This may contribute to the underestimation of African-American children in this sample. Also, because it is generally accepted that the majority of abuse goes unreported, and while it is assumed that the proportion of unreported cases to reported cases is the same across ethnic groups and disability status, research in this area suggests that there may indeed be reporting differences between these groups (Sobsey, 1994). Finally, is has been demonstrated that not all children with disabilities are at equal risk for maltreatment. Sullivan and Knutson (1997), for example, have suggested that a relationship may exist between the type of abuse and type of disability. This relationship needs to be evaluated further to determine how it may contribute to a differential risk for children from different ethnic backgrounds.

Another important consideration in this analysis may be the differential survival rate between African-American and White infants. It has been demonstrated that the rates of postneonatal deaths for African-American children are two to three times that of White children (Collins & Hawkes, 1997; Kerr, Ying, & Spears, 1995). While attrition may be higher in the African-American sample due to infant deaths, the expected number in a sample size such as ours is likely too small to affect results significantly. Despite these limitations, the present study is potentially useful because it represents one of the largest and best controlled efforts to date, and, although limitations exist, they are minimized by the size and extensive nature of the dataset.

Conclusion

This study supported previous findings that, when children of all ages are combined, children with disabilities and African-American children are overrepresented among maltreated children. Of the African-American children reported for maltreatment across the age span, however, an inverse relationship develops between the relative proportions of African-American and White maltreated children, with African-American children being abused at a younger age. While there may be several factors contributing to these different trends, it is important to recognize that there are different issues affecting infants, preschool-aged, and school-aged children of different ethnic groups. The aim of research in child abuse and neglect is to decrease the number if children suffering from

maltreatment. In order to be successful, however, there is a need to understand factors that are associated with an increased risk for abuse.

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Chapter IV

Conclusion

Much of what we know about the maltreatment of children with disabilities has been extrapolated from studies of children without disabilities. As research specific to children with disabilities is now beginning to emerge, it is being recognised that these generalizations are often not appropriate. Comparisons such as those described in Chapters II–IV are instrumental in demonstrating the limitations of generalizing results from populations of children without disabilities to those with disabilities. Chapters II and III evaluate the interaction between gender and disability status in terms of the differential risk for abuse in children, while Chapter IV evaluates the ethnicity and disability interaction.

All three Chapters support the well-accepted hypothesis that children with disabilities are abused at a higher rate than their nondisabled peers. Research from the United States and Canada suggests that the estimated maltreatment rates are at least 1.7 to 2.4 times higher than for children without disabilities (Crosse, Kaye, & Ratnofsky, 1993; Sobsey, Randall, & Parrila, 1997). While the above rates are lower than the 3.4 times higher rate reported by Sullivan and Knutson (1997), they are clear in demonstrating a significantly increased risk of maltreatment for children with disabilities. This increased rate for abuse, however, is not consistent across all children with disabilities.

Chapter II supports the generally well-accepted conclusion that boys and girls without disabilities are about equally likely to experience some form of abuse. When evaluating children with disabilities, however, our results revealed that gender differences exist between abused children with and without disabilities (Sullivan & Knutson, 1997). Specifically, boys with disabilities made up a significantly larger proportion of children with disabilities who were physically abused or neglected. In addition, boys with disabilities were overrepresented among sexually abused children compared to their nondisabled peers. While the majority of children with disabilities ages 1–17, who have been sexually abused, are girls; the girls to boys ratio of 1.6:1 is much lower than the 4.6:1 ratio found for nondisabled children.

One of the more striking gender differences, however, is revealed when the maltreated children are divided into age groups. For elementary school-aged children with disabilities, boys made up 94% of the physically abused children, 53% of the sexual abuse victims, 72% of the neglected children, and 100% of the emotionally abused children. Overall, of children with disabilities, boys make up almost 80% of the victims, while for children without disabilities, boys and girls are about equally abused.

Chapter II indicates that there are indeed significant gender differences in child maltreatment patterns between children with and without disabilities. This demonstrates limitations in generalizing results based on research conducted with children without disabilities to children with disabilities. Given that one of the goals of this series of studies is to establish the lack of generalizability across samples of children with characteristics and from different sources, it was appropriate to analyze a sample drawn from a different population. Chapter III accomplishes this by utilizing a sample of child sexual abuse victims from a Canadian setting.

Chapter III found that children with disabilities are generally more vulnerable to sexual abuse than children without disabilities. Consistent with results discussed in Chapter II, results showed that gender differences do indeed exist between abused children with and without disabilities, and that boys with disabilities are especially vulnerable to abuse compared to their same-age peers. The difference between the groups of children with and without disabilities was particularly large for elementary school-aged children, a finding similar to that found in Chapter II. In addition, for children with disabilities, an increase in age was not found to result in decreased risk for being sexually abused as it does for children without disabilities. These results parallel those described in Chapter II in revealing the inadequacy of using research results from nondisabled populations to describe the maltreatment of children with disabilities.

Children with disabilities are known to be at an increased risk for maltreatment. Another group of children who share an increased risk is children from ethnic or racial minorities, particularly African-American children. Indeed these children have been shown to be overrepresented in child protection agency records, hospital records for maltreatment, and law enforcement records (Sullivan & Knutson, 1997). While confirmation of these characteristics as risk factors has been fairly well-documented, the interaction of race and disability has received little research attention. Just as we have been questioning the utility and acceptability of generalizing research results across children with and without disabilities, it is important to evaluate whether the increased risk for maltreatment due to the presence of a disability can be generalized across ethnic backgrounds.

Chapter IV addresses the issue of whether the presence of a disability had a differential effect on children of different racial/ethnic backgrounds. To evaluate this, an analysis of the dataset described in Chapter II was conducted. These data revealed that African-American children are overrepresented among children reported for maltreatment and that the risk is 2.4 times higher than their representation in the general population. In addition, analysis revealed that the proportions of African-American, White, and Other children with disabilities did not differ from the ethnic proportions of children without

disabilities, as suggested by Crosse et al. (1993). The presence of a disability in this group did not change the proportion of African-American children among those reported for maltreatment. The results also showed that for African-American children with and without disabilities their risk for abuse decreased as they got older; for White children with and without disabilities, the reverse was the case. For children from other ethnic backgrounds, their relative risk for abuse remained relatively stable.

This research focuses on the characteristics of children who have been abused. While having a characteristic such as a disability or being a member of a particular ethnic background is shown to be associated with an increased risk for abuse, this does not imply that these characteristics are the cause of the abuse. Indeed, it is the offenders who are fully responsible for the abuse. This research does, however, help to identify children who are at increased risk for being maltreated.

Clinical Implications

One of the goals of the studies described in the above chapters is to establish that differences exist between groups of children with and without disabilities who have been maltreated. Existing prevention and treatment programs are based primarily on findings from nondisabled populations and, therefore, may not be well suited to serve people with disabilities. Efforts in the development of programs that aim to prevent or reduce abuse need to be based on research rather than assumptions about risk factors. Sobsey and Varnhagen (1988) reviewed the literature on abuse of people with disabilities and concluded that "the literature reviewed here and our own pilot studies suggest that current prevention efforts and treatment services often fail to meet the needs of the people with disabilities, and that failure becomes increasingly common as a function of the severity of the disability" (p. 16). Chapters II–IV provide further evidence for this conclusion and make it clear that prevention efforts currently in place need to be modified to improve protection of children with disabilities.

The overrepresentation of boys with disabilities who have been abused suggests that this group may be exposed to different risk factors than girls. The principles in an ecological model of abuse, such as those outlined in Chapter II, may account for at least some of the increased risk for boys. For example, it has been established that the majority of sexual offenders are men. In addition, nonfamilial caregivers of boys are more likely to be male, and nonfamilial caregivers of girls are more likely to be females. The greater physical and social proximity of boys with disabilities to male caregivers may increase their chances of being sexually abused. Increasing public knowledge regarding the high incidence of the sexual abuse of boys combined with a more efficient screening system for those who are in close contact with boys is necessary to reduce this overrepresentation. In

addition, professionals and others in contact with people with disabilities need to be aware of the high rate of child abuse among the children they see regularly.

While the interaction effects of having a disability for African-American children are not entirely understood, the high incidence of reported maltreatment for these children suggests that prevention efforts must be directed toward this group as well. Consistently high proportions have also been shown by Sullivan and Knutson (1997), suggesting that this finding is not specific to the sampling methods used in our research but is likely representative of the general population.

Long-term consequences for children who have been maltreated have been well established in the literature. Physical consequences can range from minor injuries to severe and permanent physical disabilities, brain damage, and death. Psychological effects include chronic disorders such as depression, low self-esteem, maladaptive attributional styles and other features of learned helplessness. Severe dissociative disorders have also been shown to be a result of child abuse (National Research Council, 1993). In addition, Sullivan and Knutson (1997) found that abused children with and without disabilities were absent from school significantly more often than their nonabused peers. Nonabused children with and without disabilities had significantly higher reading and math achievement scores than their abused peers as well. These constructs should be explored further and combined with information regarding risk factors in order to develop effective identification and intervention programs to reduce the risk and the effects of child maltreatment.

Child abuse and neglect are criminal offenses. The rigor with which charges are pursued, however, is often much less than it is for less serious crimes. As suggested by the U.S. Advisory Board on Child Abuse and Neglect (1995) regarding child fatalities as a result of abuse, "Our goal must be to prosecute child homicides as aggressively as we now prosecute adult murders. To be successful however, the greatest barrier to achieving equal justice has to be overcome—public disbelief" (U.S. Advisory Board on Child Abuse and Neglect ,1995, p. 43). Indeed, these criminal acts must be treated as criminal acts and the offenders held accountable.

Research Implications and Recommendations

There are several ways of evaluating child maltreatment. This research used samples drawn from populations of children already known to be abused. Another way is to sample either general populations, or specific populations such as those with disabilities, to determine the characteristics of the abused child. While both methods have strengths and limitations, it is important to sample from different populations to determine whether results are consistent and generalizable. In addition, while this series has focused on the

identification of risk factors for abuse, it may be useful to try to identify the factors that serve to protect other children from abuse. These protection factors could add another important component to the development of strategies to prevent or reduce the maltreatment of children.

Several theories have been developed that attempt to explain or account for differences in risk factors for abuse. For example, a theory of social devaluation suggests that children are more likely to be abused because they are socially devalued. Korbin (1987), in discussing a review of cultural influences on child abuse, concludes that the social value given to children has a significant influence on their likelihood of being abused. It could be speculated that American society devalues a number of attributes including disability and non-White racial classifications. Having any one of these "marginalizing" traits would increase risk for abuse (Sobsey, 1994). Goldson (1997) suggested that dehumanization of children with disabilities is related to devaluation and since these children are perceived as less than fully human, they are less likely to be protected. As Goldson concluded "in the hands of disturbed, sadistic, or unscrupulous individuals, these children run the risk of being maltreated.

An ecological model of child abuse suggests that a disability is more likely to lead male children to environments and situations where abuse takes place. Nonfamilial caregivers of boys are more likely to be male, and nonfamilial caregivers of girls are more likely to be females. Several researchers (e.g., Marchetti and McCartney, 1990) found that male caregivers in disability-related services are more likely physically and sexually abusive than female caregivers. Sobsey's (1994) findings that 76.9% of children 14 and younger who were sexually abused in an institutional setting were males provide support for this hypothesis. The greater physical and social proximity of boys with disabilities to male caregivers may increase their chances of being abused. Testing this hypothesis will require additional study of the relationship between abuse perpetrators and victims among boys and girls with and without disabilities. Other theories such as the Dependency-Stress Model, the Counter-Control Model, and the Social Learning Model have also been applied to child abuse and neglect as outlined in Sobsey (1994). In order to evaluate these theories from a research perspective, however, data collection efforts must focus on characteristics of perpetrators, the victims, and the dyadic relationship that exists between them.

Early analysis suggests that the primary offenders against children with and without disabilities are parents and caregivers (Randall, Sobsey, & Parilla, 1998). Given that Child Protection Service agencies likely overrepresent intrafamilial offenders, research using other data sources may allow results to be generalized further. Sullivan and Knutson (1997), for example, used natural cohorts and cross-referenced information from school

records and law enforcement reports to evaluate characteristics of abused children, and represents one of the best controlled and representative data collection efforts to date.

There appears to be a relationship between maltreatment of children with disabilities and disabilities caused by maltreatment (Randall & Sobsey, 1998). While it is known that the majority of people with disabilities will be victims of violence at some point in their lives, it is sometimes difficult to determine whether the disability was caused by or simply associated with the individuals' disability (Sobsey, 1994). Violence can cause disabilities in a number of different ways. Mild disabilities can become more severe or a child can develop other disorders as a result of maltreatment. Baladarian (1990) estimates that at least 18,000 children per year become permanently disabled because of abuse or neglect. The U.S. Advisory Board on Child Abuse and Neglect (1995) concludes that an alarming 9.5 to 28% of all disabled persons may have been made so by child abuse and neglect. This relationship needs to be explored further in order to understand the cause-effect relationship that may exist between abuse and disability.

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